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The EDISON ELECTRIC INSTITUTE BULLETIN

October 1954

EEI Committees— An Appreciation

General and Engineering Committee Work for 1954-55

Progress and Accomplishments

R. G. Rincliffe

Rate Policies for Adequate Public Service

Robert S. Quig

The Credit Picture

Prize Award Competitions

Published Monthly by Edison Electric Institute

ELECTRICAL RESEARCH STATISTICS
THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

July, 1953-1954

SOURCE AND DISPOSAL OF ENERGY—MONTH OF JULY

	1954	1953	%
NET GENERATION* (Kwhrs in Thousands)			
By Fuel Burning Plants	31,318,504	29,309,094	+ 6.9
By Water Power Plants	8,758,500	8,770,043	− 0.1
Total Generation	**40,077,004**	**38,070,137**	**+ 5.3**
Add—Net Imports Over International Boundaries	129,911	127,997	+ 1.5
Less—Company Use	140,372	136,611	+ 2.8
Less—Energy Used by Producer	1,142,862	936,089	+22.1
Net Energy for Distribution	38,923,681	37,125,434	+ 4.8
Lost and Unaccounted for	5,078,607	5,136,422	− 1.1
Sales to Ultimate Customers	**33,845,074**	**31,989,012**	**+ 5.8**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of July 31			
Residential or Domestic	42,609,946	41,395,944	+ 2.9
Rural (Distinct Rural Rates)	1,640,167	1,616,085	+ 1.5
Commercial or Industrial:			
Small Light and Power	5,967,889	5,784,775	+ 3.2
Large Light and Power	276,384	269,807	+ 2.4
Other Customers	162,540	158,731	+ 2.4
Total Ultimate Customers	**50,656,926**	**49,225,342**	**+ 2.9**
KILOWATTHOUR SALES—During Month of July (Kwhrs in Thousands)			
Residential or Domestic	8,424,830	7,478,650	+12.7
Rural (Distinct Rural Rates)	1,170,253	1,005,970	+16.3
Commercial or Industrial:			
Small Light and Power	6,626,237	6,068,338	+ 9.2
Large Light and Power	16,166,756	15,980,353	+ 1.2
Street and Highway Lighting	282,302	259,089	+ 9.0
Other Public Authorities	772,700	764,199	+ 1.1
Railways and Railroads:			
Street and Interurban Railways	192,907	215,191	−10.4
Electrified Railroads	151,628	164,941	− 8.1
Interdepartmental	57,461	52,281	+ 9.9
Total to Ultimate Customers	**33,845,074**	**31,989,012**	**+ 5.8**
Revenue from Ultimate Customers (Thousands)	**$603,767**	**$562,032**	**+ 7.4**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—For 12 months ended July 31, 1954			
Kilowatthours per Customer	2,458	2,272	+ 8.2
Average Annual Bill	$66.61	$62.48	+ 6.6
Revenue per Kilowatthour	2.71¢	2.75¢	− 1.5

* By Courtesy of the Federal Power Commission.

THE EDISON ELECTRIC INSTITUTE BULLETIN is published monthly by the Edison Electric Institute, an association of electric light and power companies in the United States and its territorial possessions. Its affiliate members consist of members of the Canadian Electrical Association.

The objectives of the Edison Electric Institute are:

The advancement in the public service of the art of producing, transmitting, and distributing electricity and the promotion of scientific research in such field.

The ascertainment and making available to the members and the public of factual information, data, and statistics relating to the electric industry.

To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor, and employee.

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The EDISON ELECTRIC INSTITUTE BULLETIN

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CONVENTIONS AND MEETINGS

1954

NOVEMBER

4- 5 PEA Transmission and Distribution Committee, Alexander Hotel, Hagerstown, Md.
8-11 NEMA, Haddon Hall, Atlantic City, N. J.
8-12 NARUC Convention, La Salle Hotel, Chicago, Ill.
11-12 AGA Managing Committee, The Homestead, Hot Springs, Va.
11-12 Southeastern Electric Exchange, Accident Prevention Committee, Heidelberg Hotel, Baton Rouge, La.
12 PIP Mid-Atlantic Regional Meeting, Hotel Statler, Washington, D. C.
15-16 EEI Industrial Power and Heating Section, Cleveland, Ohio.
15-17 ASA Fifth National Conference and 36th Annual Meeting, Hotel Roosevelt, New York, N. Y.
17-18 EEI Commercial Lighting Committee, Cleveland, Ohio.
17-18 Pacific Coast Electric Association, Administrative Services Section, Joint Conference, with Accounting Section of P. C. G. A., Hotel Sir Francis Drake, San Francisco, Calif.
17-19 Wisconsin Utilities Association, Electric and Gas Sections, Schroeder Hotel, Milwaukee, Wis.
18-19 New Jersey Utilities Association, 39th Annual Meeting, Seaview Country Club, Absecon, N. J.
18-19 EEI Industrial Relations Committee, in conjunction with the North Central Electric Association, Minneapolis, Minn.
28-Dec. 3 ASME Annual Meeting, Statler Hotel, New York, N. Y.
29-30 EEI Prime Movers Committee, Astor Hotel, New York, N. Y.
29-30 EEI-AGA General Accounting Committee, Netherland Plaza Hotel, Cincinnati, Ohio.
29-30 EEI Wiring and Specifications Committee, St. Louis, Mo.

DECEMBER

2- 3 EEI Commercial Electric Space Heating and Air Conditioning Committee, Cleveland, Ohio.
6- 7 EEI-AGA Employee Relations Committee, New York, N. Y.
6- 8 EEI-AGA Electronics Seminar, Commodore Hotel, New York, N. Y.
7- 8 EEI Street Lighting Committee, Boston, Mass.
8-10 EEI Commercial Cooking and Water Heating Committees, Jefferson Hilton Hotel, St. Louis, Mo.
9-10 EEI-AGA Customer Accounting Committee, New York, N. Y.
9-10 EEI Home Service Committee, Hotel Schroeder, Milwaukee, Wis.
9-10 EEI-AGA Customer Collections Committee, Mayflower Hotel, Washington, D. C.
9-10 EEI-AGA Customer Relations Committee, Mayflower Hotel, Washington, D. C.
13-14 EEI-AGA Internal Auditing Committee, Cincinnati, Ohio.
13 EEI Industrial Relations Committee, EEI Headquarters, New York, N. Y.

1955

JANUARY

20 EEI Industrial Relations Committee, EEI Headquarters, New York, N. Y.
31-Feb. 1 EEI Prime Movers Committee, Grand Hotel, Mobile, Ala.
31-Feb. 4 AIEE Winter General Meeting, Hotel Statler, New York, N. Y.

1955

FEBRUARY

3- 4 Missouri Valley Electric Association, Industrial and Commercial Sales Conference, President Hotel, Kansas City, Mo.
4- 5 EEI Home Service Committee, Washington, D. C.
9-10 EEI Accident Prevention Committee, Shoreham Hotel, Washington, D. C.
10-11 EEI Transmission and Distribution Committee, Shoreham Hotel, Washington, D. C.
13-15 24th Annual Mid-Winter Conference, Public Utility Buyers' Group, NAPA, Shamrock Hotel, Houston, Texas.
14 EEI Industrial Relations Committee in conjunction with AGA at AMA Mid-Winter Personnel Conference, Palmer House, Chicago, Ill.
14-15 EEI Electrical Equipment Committee, Deshler Hilton Hotel, Columbus, Ohio.
15-16 EEI-AGA Plant Accounting and Property Records Committee, Edgewater Beach Hotel, Chicago, Ill.
17-18 EEI Commercial Electric Space Heating and Air Conditioning Committee, St. Louis, Mo.
17-18 EEI Residential Promotion Committee, New York, N. Y.
17-18 EEI 1955 Accounting Conference, Planning, Edgewater Beach Hotel, Chicago, Ill.
23-24 Pacific Coast Electrical Association Conference on Electronic Integrated Data Processing, Hotel Statler, Los Angeles, Calif.

MARCH

6- 9 North Central Electric Association, Sales Committee Meeting, Radisson Hotel, Minneapolis, Minn.
13-18 NEMA, Edgewater Beach Hotel, Chicago, Ill.
17 EEI Industrial Relations Committee, EEI Headquarters, New York, N. Y.
18-20 ASME Spring Meeting, Lord Baltimore Hotel, Baltimore, Md.
21-23 Southeastern Electric Exchange, Annual Meeting, Boca Raton Hotel and Club, Boca Raton, Fla.
23-25 Missouri Valley Electric Association, Engineering Conference, President Hotel, Kansas City, Mo.
24-25 Oklahoma Utilities Association Convention, Mayo Hotel, Tulsa, Okla.
25-26 Controllers Institute of America, Southern Conference, Mayo Hotel, Tulsa, Okla.
31-April 1—IES Southern Regional Conference, Ft. Harrison Hotel, Clearwater, Fla.

APRIL

3- 5 IES Southwestern Regional Conference, Gunter Hotel, San Antonio, Texas.
7- 8 Pacific Coast Electrical Association Joint Conference, Administrative Services and Accounting Section, PCGA, Jokake Inn, Phoenix, Ariz.
7- 8 Southeastern Electric Exchange Engineering and Operating Section, Roosevelt Hotel, New Orleans, La.
14-15 IES Southern Pacific Coast Regional Conference, Statler Hotel, Los Angeles, Calif.
17 Rocky Mountain Electrical League Annual Spring Conference, Shirley Savoy Hotel, Denver, Colo.
18-21 ASME Spring Meeting, Lord Baltimore Hotel, Baltimore, Md.
21 EEI Industrial Relations Committee, Cincinnati, Ohio.
24-27 Rocky Mountain Electrical League Spring Conference, Shirley Savoy Hotel, Denver, Colo.
25-28 North Central Electric Association, Engineering Committee, Dyckman Hotel, Minneapolis, Minn.
25-26 IES Pacific Northwest Regional Conference, Harrison Hot Springs Hotel, Harrison Lake, B. C.
28-30 Controllers Institute of America, Eastern Conference, Royal York Hotel, Toronto, Ont.

The EDISON ELECTRIC INSTITUTE
BULLETIN

EEI General and Engineering Committee Activities for 1954-55

THE EEI COMMITTEES—AN APPRECIATION

The 1954-55 committee roster, published as a separate section of last month's EEI BULLETIN, lists the names of over 1400 individuals serving on 55 committees of the Institute.

The majority of these individuals are leaders in their respective fields, men of seasoned judgment and often notable accomplishment. The remainder are outstanding younger men destined, in the main, for posts of greater responsibility and service. Together, with their predecessors in committee activities, they are outstanding exemplars of a force that has had profound influence on the electric industry's extraordinary record in the space of 75 years in anticipating, creating and filling demands for electric service—a record which has made the industry the leading contributor to the nation's economic and social development.

This record has been made possible largely through the constructive thinking, creative ability, foresight and devoted spadework of many people jointly giving of their best in noble enterprise and cooperation.

Lineal descendants of the first committees established in 1885 by the pioneer electrical association, the committees of the Institute stand preeminent among those groups which have worked jointly for the common good. They stand pre-eminent in the regard of the industry, and pre-eminent in their indispensable, essential and vital contributions to the progress of the industry.

Collectively the magnitude of their work defies assessment, but the influence of their deliberations, their sharing of information, their studies, reports, innovations and recommendations is reflected in practically every phase of operations and procedures in the electric industry in this country, and in many foreign countries which have modeled their practices on our own.

FOLLOWING its custom of the past several years, the BULLETIN presents in this issue brief reports on the major activities being undertaken during the present administrative year by the twenty General Committees and the six Engineering Committees of the Institute. Similar surveys of the activities undertaken by the committees of the Accounting and Commercial Divisions will appear in the November issue of the BULLETIN.

Board of Directors

As the governing body of the organization, the Board of Directors exercises general supervision of the numerous activities of the Institute committees, including the General Committees and those of the Accounting, Commercial and Engineering Divisions. The Board also elects the officers of the Institute, sets the policies of the organization and supervises their execution.

HAROLD QUINTON
Chairman of the Board of Directors
and Institute President

Membership of the Board is drawn mainly from chief executives of member companies. Board members are elected for three-year terms, one-third of the members being elected each year. The president of the Institute serves as chairman.

Advisory Committee

The Institute's Advisory Committee, composed of 24 members also chosen from chief executives of member companies, acts as occasion requires in a consulting capacity with the Board of Directors on matters broadly affecting the whole electric utility industry.

EEI General Committees

Accident Prevention Committee

The Accident Prevention Committee, under the chairmanship of R. P. DOUGLAS, The Detroit Edison Co., is directing attention to many phases of safety in utility operation and is continuing efforts toward preventing electrical contacts which were found to be most prevalent in an analysis of fatal accidents in the electric industry since 1941. A study is made of all electric shock or burn cases submitted by member companies. Many cases with descriptions and preventive comments are published in *Exchange*, a publication released by the committee three times a year.

During the past year a manual on the use of rubber protective equipment was released and a specification for electrical workers' insulated safety hats is to be released in the next few months. A survey of linemen's climbing equipment has been made with the intention of preparing specifications for climbers, belts and straps. A study of grounding practices has recently been initiated.

The film, "Lifeline of the Lineman" has been developed and will soon be made available to all electric utilities. In addition, the committee will continue to publish monthly safety letters and bulletins concerning safe working practices and the use of proper protective equipment and will also publish seasonal hazard pamphlets.

The resuscitation subcommittee is keeping abreast with latest developments and is continuing the electrical-resuscitation project at John Hopkins University. Subcommittees are also directing their efforts to ways of preventing accidents to the public. Information concerning the flying of kites and model airplanes has been collected and released to members.

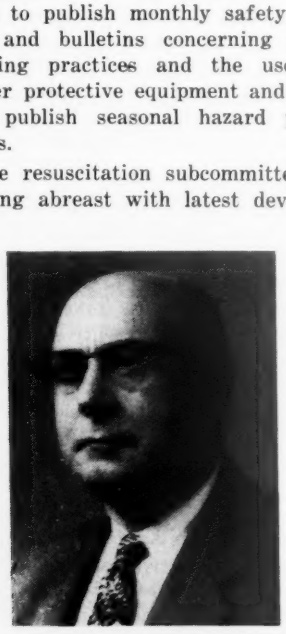
The subcommittee on motor vehicle safety, working closely with the EEI Transportation Committee, is investigating motor vehicle accidents, which rank second in number of fatal accidents in public utilities. Preparation of a driver training manual is under consideration.

The Accident Prevention Committee, through invitation, is participating in the development of projects sponsored by other committees of the Institute.

During the committee year, June, 1953, through May, 1954, there were 56 Safety Merit Award certificates presented. Several of these were for 2,000,000 man hours, one for 3,000,000 and one for 6,000,000. The number of awards is gradually increasing, reflecting both bettered safety performance and a growing awareness on the part of management that this type of recognition is a valuable stimulant to achievement.

A round-table discussion highlights the committee's three meetings a year and is an excellent source of information. All members, representing 52 companies, participate by submitting and discussing problems on practices and equipment.

Accident prevention is a never-ending program and the results are often difficult to measure. It is encouraging, however, to note that in 1953 the electric industry had its lowest accident-frequency rate since 1934, with a trend toward still further reduction in 1954.



R. P. DOUGLAS
Chairman of the Accident Prevention Committee

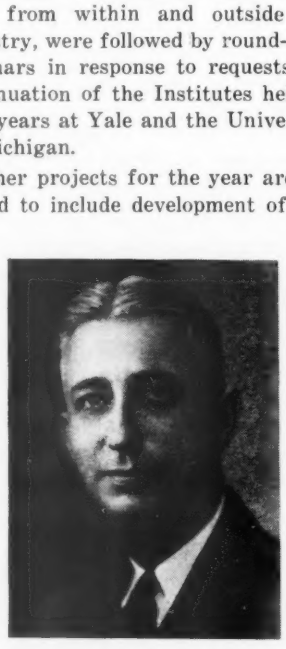
Chairman R. P. DOUGLAS, Director of Safety for The Detroit Edison Co., has been engaged in safety work for the past 35 years. He has been with Detroit Edison for 39 years, is now secretary-treasurer, director and board member of the Detroit Industrial Safety Council, and a member of the Fire Prevention Committee, Detroit Chamber of Commerce. Mr. Douglas, an EEI Accident Prevention Committee worker since 1944, is a past president of the Michigan Safety Conference, a member of two National Safety Council Committees, a member of the President's Conference on Occupational Safety and a member of the International Association of Fire Chiefs. He is also a member of committees of the Automobile Club of Michigan and the Michigan Rural Safety Council.

Area Development Committee

The Area Development Committee, under Chairman W. I. DOLBEARE of Virginia Electric and Power Co., expects to continue its present program of studying, compiling and exchanging information on subjects pertinent to the work of EEI member companies in this field. It is most interesting to note that nearly every electric company is showing activities in the various phases of area development, and it is believed that the work of the Area Development Committee in previous years has contributed greatly to this increasing interest.

The committee met in Cleveland on October 6 for an organization session, at which assignments were made for the administrative year 1954-1955. On the two days following, October 7 and 8, an Area Development Workshop, with emphasis on the "how" as well as the "why" was conducted under the leadership of FRANKLYN DICKINSON, Ohio Edison Co. Talks by prominent authorities, both from within and outside the industry, were followed by round-table seminars in response to requests for continuation of the Institutes held in past years at Yale and the University of Michigan.

Other projects for the year are expected to include development of ma-



W. I. DOLBEARE
Chairman of the Area Development Committee

terials for the training of area development personnel, evaluation of the travel industry, suggestions as to the utilities' part in community planning and similar related efforts.

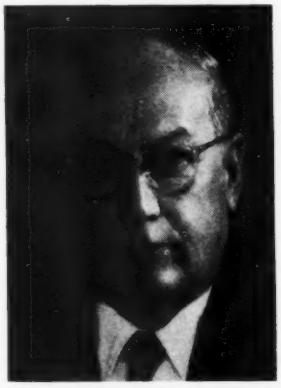
Chairman W. I. DOLBEARE, affiliated with Virginia Electric and Power Co. since 1927, is Vice President of the company in charge of area development activities. A graduate of Brown University, he joined Vepco as an illuminating engineer. He has served in various capacities during the past 27 years, including positions in sales work activities, as manager of the former Williamsburg and Suffolk districts of the company and as director of industrial development. Mr. Dolbeare served as a commander with the Navy in the Pacific for five years during World War II and returned to Vepco after his tour of duty. He was elected to his present position in 1953.

Codes and Standards Committee

The Codes and Standards Committee, with E. W. DOEBLER, Long Island Lighting Co., as Chairman, is responsible for activities relating to standards, codes and other technical regulations. An important concern of this committee is the relations between the electric light and power industry and other groups and associations, such as the National Electrical Manufacturers Association, the National Fire Prevention Association and many similar business groups.

Additionally this committee is responsible for the electric light and power industry's participation in the committees of the American Standards Association which seek to establish standards in the electrical field of national scope.

Chairman E. W. DOEBLER, a member of the Institute's Board of Directors, has been President and Chief Executive Officer of Long Island Lighting Co. since 1953. A World War I veteran, he taught civil engineering courses at Swarthmore College, worked in the engineering,



E. W. DOEBLER
Chairman of the Codes and Standards Committee

E. H. DIXON
Chairman of the Committee on Atomic Power

sanitation and utility fields and was a consulting engineer and appraiser before being employed in 1927 as assistant business manager of Long Island Lighting, Nassau & Suffolk Lighting Co. and Long Beach Gas Co. He served as general operating manager in charge of gas and electric operations, engineering and construction for the three companies, becoming vice president of Long Island Lighting in 1941 and director in 1945.

Committee on Atomic Power

Until recently, the Committee on Atomic Power, whose chairman is E. H. DIXON of Middle South Utilities, Inc., directed its efforts principally toward revision of the Atomic Energy Act. In July, 1953, and again in May of this year, detailed testimony was made before the Joint Congressional Committee on Atomic Energy, favoring revision of the law so as to open the nuclear-power field to private capital and private enterprise.

Now that the new Atomic Energy Act of 1954, which includes a number of points recommended by the Institute, has been adopted, the Committee on Atomic Power intends to disseminate to the EEI membership from time to time pertinent information on the subject of atomic power and related developments. Initially, the committee will digest and distribute to member companies information concerning the power-reactor program of the AEC and the role which electric power companies may play in this program.

Chairman E. H. DIXON has been President and Director of Middle South Utilities, Inc., since 1949, when it was formed following the reorganization of Electric Power & Light Corp. He had been president of the latter company since 1944, having served it and the United Gas Corp., both units in the Electric Bond & Share Co. system as secretary, treasurer, director and vice president. Mr. Dixon participated in the formation of Electric Energy, Inc., and is now serving as vice president and director of that company. He has been active on EEI committees for a number of years and is presently a member of the Advisory Committee.

Committee on Regulation

The Committee on Regulation, under Chairman HARLLEE BRANCH, JR., of Georgia Power Co., considers and advises on questions of general policy pertaining to regulation and legislation affecting the electric industry.

The committee, appointed by former EEI President Walter H. Sammis in early 1954, had JUSTIN WHITING of Consumers Power Co. as its first chairman. Mr. Whiting served capably as chairman through the early deliberations of the committee, but recently resigned from the post because of other responsibilities. He now serves as a member of the committee. Mr. Branch succeeded him as chairman. The other members of the committee are J. B. BLACK, Pacific Gas and Electric Co.; J. E. CORETTE, The Montana Power Co.; D. S. KENNEDY, Oklahoma Gas and Electric Co.; and I. L. MOORE, New England Electric System.

Chairman HARLLEE BRANCH, JR., Vice President of the Institute, is President of Georgia Power Co. He graduated from Davidson College with a B.A. in 1927 and entered Emory University as a law student in the same year. Completing his studies in 1931, he became a member of the law firm of MacDougald, Troutman, Sams and Branch, general counsel for Georgia Power. During World War II he served as a U. S. Navy lieutenant. In 1949 he joined Georgia Power as vice president, general manager and director, becoming president in 1951. Mr. Branch, who has served on the EEI Board of Directors, is a director of The Southern Co., Southern Services, Inc., and the Federal Reserve Bank of Atlanta, and is president of the Southeastern Electric Exchange. A former law

HARLLEE BRANCH, JR.
Chairman of the Committee on Regulation

instructor at Emory University, the University of Georgia Evening College and the Atlanta Law School, he has long been interested in educational and civic work. He is a member of many public-welfare organizations and is a past president of both the Atlanta Bar Association and the Atlanta Legal Aid Society.

Committee on Technical Exchange for Overseas Visitors

The Committee on Technical Exchange for Overseas Visitors, whose chairman is HARVEY E. BUMGARDNER of The Detroit Edison Co., was organized in July, 1954, to give assistance in connection with visits to the power systems of this country by groups or persons representing power systems in overseas countries. It will cooperate with the Foreign Operations Administration and other organizations concerned with technical assistance programs for overseas electric company visitors.

The Committee plans to have an organizational meeting early in the fall of 1954 to outline its program. Shortly thereafter member companies will be contacted for cooperation as participants in technical-assistance and technical-exchange programs.

Chairman HARVEY E. BUMGARDNER, Assistant to the Controller at The Detroit Edison Co., also serves the company as Coordinator of Technical Assistance Programs. A native of Indiana, he graduated from the University of Michigan as a mechanical engineer in 1922. Joining Detroit Edison in 1924 as a junior engineer, two years later he became research engineer in charge of the Mechanical Division, serving as such until assuming his present position. Mr. Bumgardner is a consultant to the Foreign Operations Administration and as such made visits to Europe in 1952 and 1954 to study FOA's accomplishments. He is chairman of the Detroit Section of ASME, a member of the Engineering Society of Detroit, the American Management Association and the National Industrial Relations Board.

Electric Power Survey Committee

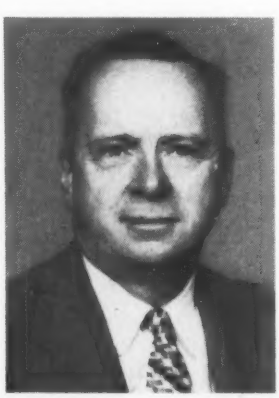
The vital importance of electricity to our peacetime industrial economy and to our national defense is well understood. One of the frequently recurring questions raised by both industry and government concerns the adequacy of the present and probable future supply of electricity to meet these requirements. Comprehensive information about the electric power situation in the United States is needed to answer these questions.

The Electric Power Survey Committee, organized in 1947, has the responsibility of providing this information. Its activities for the coming year will be under the leadership of ARTHUR S. GRISWOLD, The Detroit Edison Co., Chairman; CLARENCE W. MAYOTT, The Hartford Electric Light Co., Vice Chairman; F. DOUGLAS CAMPBELL, The Detroit Edison Co., Chairman of the Subcommittee on Manufacturing; and PAUL W. METCALF, Narragansett Electric Co., Chairman of the Subcommittee on Service Protection.

HARVEY E. BUMGARDNER
Chairman of the Committee on Technical Exchange for Overseas Visitors

Information concerning the nation's power situation is obtained by semi-annual surveys of peak loads, generating capability, margins and energy requirements, the scheduled production of heavy electric power equipment and the construction of new generating plants.

Representatives of the electric power systems or power supply areas in all parts of the country participate in the surveys and report complete information with respect to peak loads, capabilities and margins in their own areas, including actual operating results for the past year and forecasts for four years in advance. The reports, which also include complete information concerning planned new generating capacity, are reviewed by the committee and assembled on a regional and national basis.



ARTHUR S. GRISWOLD
Chairman of the Electric Power Survey Committee

Manufacturers of heavy electric power equipment also participate in the semi-annual surveys. Their representatives meet with the Subcommittee on Manufacturing and present complete data concerning orders on hand, production schedules, shipments and open manufacturing capacity. They also discuss material situations and other pertinent problems.

Because civilian-defense activities are closely related in many ways to power system operation, the Subcommittee on Continuity of Service Protection was organized in 1949. A pamphlet entitled *Protection of Electric Service from Sabotage and Enemy Action*, was completed and published in 1950.

Currently the subcommittee is concerned with a number of aspects of civilian defense, including the use of a proposed advance-warning device and the test of typical power system installations to be made at White Sands, Calif., during 1955.

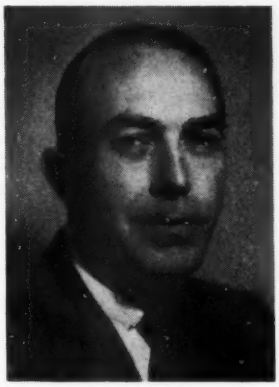
Chairman ARTHUR S. GRISWOLD is Assistant to the President at The Detroit Edison Co. with responsibility for matters related to the electric power industry. He has been associated with Detroit Edison since graduating from Cornell University as a mechanical engineer in 1922. During World War II he served for three and one-half years with the WPB Office of War Utilities as chief of the Turbine and Condenser Section of the Equipment Division. In 1948 he became consultant on electric power for the Economic Cooperation Administration and the present Mutual Security Agency and has continued to be active in matters related to the power aspects of government technical-assistance programs. As assistant to the president of Detroit Edison, he is active in the atomic-energy project being carried on by Dow Chemical Co., Detroit Edison and a group of associated companies.

Financing and Investor Relations Committee

The Financing and Investors Relations Committee, under the chairmanship of H. A. BUSCH of General Public Utilities Corp., will continue to disseminate information to EEI member companies relating to the financing problems arising out of the construction requirements of the indus-

try. It will also continue to keep member companies informed on matters having to do with investor relations. The practice of distributing current reports on financing programs of utility companies and the results of the sales of securities of such companies will be carried on.

As in the past, meetings of the committee will be held during the year to foster the free and open discussions of financial problems and to ascertain the nature of new studies to be undertaken. One of the matters which, it is hoped, the committee may be able to undertake is the study of possible simplification of handling details of common-stock offerings on rights to stockholders.



H. A. BUSCH
Chairman of the Financing and Investor Relations Committee

Chairman H. A. BUSCH has been Vice President of General Public Utilities Corp. since 1948 and Treasurer since 1950. He has been continuously employed in the public utility field since 1916. From 1916 to 1926 he was employed by the United Electric Light & Power Co., a predecessor company of Consolidated Edison Co. of New York, Inc. From 1926 to 1932 he was assistant to the treasurer of National Public Service Corp. and from 1933 to 1935, was treasurer of Penn Southern Power Co. From 1935 to 1946 he was a financial consultant with Atlantic Utility Service Corp. Upon reorganization of Associated Gas and Electric Co. in 1946, he became comptroller of General Public Utilities Corp.

Industrial Relations Committee

The Industrial Relations Committee will continue this year, under the chairmanship of FRED R. RAUCH of The Cincinnati Gas & Electric Co., to provide the electric power industry with accurate and up-to-date information in the field of employee relations.

Several media are being used for this purpose and others are being considered. The first general method is through meetings, which are of three types. The first type consists of regular meetings held in New York. During the current committee year there will be three of these. The second type includes meetings co-sponsored by regional committees. Such a meeting was held in July in Portland, Ore., co-sponsored by the Personnel Section of the Northwest Electric and Power Association. In November the Industrial Relations Committee will join the Personnel Committee of the North Central Electric Association in sponsoring a two-day meeting in Minneapolis, Minn. The Wisconsin and Iowa groups, particularly, will be invited to participate. In May there will be a meeting at Roanoke, Va., co-sponsored with the Personnel Section of the Southeastern Electric Exchange.

The first type of meeting is informal and is concerned with immediate problems and exchange of current information. At the co-sponsored meetings, which are more formal in their programs, outstanding utility industrial relations executives present prepared papers on timely topics. Audience participation discussions follow the presentations.

The third type of meeting is held once a year. Each fall the committee sponsors the Annual Round Table Conference—a real working operation. On opening day, four speakers chosen from the foremost electric utility industrial relations men present the theory and philosophy of problems facing the companies. During the balance of the conference, conferees are gathered in 25-man groups to discuss how these problems are handled by the companies represented.

F. R. RAUCH
Chairman of the Industrial Relations Committee

These "How to Do It" groups afford excellent training for younger men and give the more experienced men an opportunity to gauge their own performances. Well-known company presidents address the luncheons on each of the three days on matters of general interest.

The committee, by means of surveys, attempts to keep up to date on wage- and fringe-benefits costs. This data is, of course, available only to participating companies.

In addition, the secretary of the committee is in receipt of a great deal of data that is a reservoir for the companies to tap at will. The committee urges that greater use be made of this source of information.

Chairman FRED R. RAUCH, Vice President, The Cincinnati Gas & Electric Co., is a registered professional engineer with more than 26 years' experience in employee-employer and union-employer relations. His background includes 15 years' experience in the construction of industrial, commercial and public-works structures in the United States, Puerto Rico, and the Virgin Islands. He was employed as industrial relations director of Cincinnati Gas & Electric in 1942 and was made vice president in charge of industrial relations shortly thereafter. Mr. Rauch is president of the Greater Cincinnati Safety Council, a committee member of the American Gas Association, past president of the Cincinnati Chapter of the Society for the Advancement of Management and a member of the Engineering Society of Cincinnati. He recently served on an American Management Team that conducted seminars in Austria for the Austrian government and the League of Austrian Industrialists. These seminars were under the auspices of the U. S. Special Mission for Economic Cooperation and the National Management Council.

Insurance Committee

The Insurance Committee, under the chairmanship of W. O. RANDLETT, Virginia Electric and Power Co., made progress during the past year in its study of new methods of fire protection for outdoor power transformers together with rate credits for installations meeting certain underwriters' standards. Also, satisfactory progress has been made toward coordinating the matter of utility fire prevention and protection activities with the Electrical Equipment and Prime Movers Committees of the Institute. It is anticipated that a joint subcommittee on fire protection, representing the three groups, will function during the coming year.

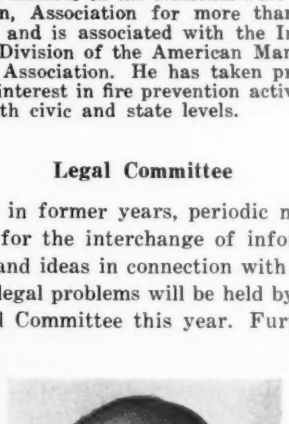
Current problems involving boiler and machinery insurance and catas-

trophe excess liability insurance will continue to receive attention through subcommittees to which the subjects have been assigned. New forms of deductible fire insurance and combinations of risks insured under single policies are other matters which will be taken under consideration by the committee in 1954-55.

The Insurance Committee welcomes inquiries on any subject related to insurance protection from other committees or from any member company of the Institute and offers full cooperation in endeavoring to be of service in the solution of common problems.

Mr. Randlett continues as chairman of the Insurance Committee for the ensuing year and D. E. WILLIAMS, Secretary of The Cleveland Electric Illuminating Co., has been appointed secretary of the committee.

Chairman W. O. RANDLETT, Manager of the Insurance Department, Virginia Electric and Power Co., has spent practically his entire business career with that company. Starting with it in 1919, after experience in the power production, purchasing and accounting departments, he became assistant manager of the Insurance Department in 1931 and manager in 1945. Mr. Randlett has been an active member in the National Fire Protection, Association for more than 21 years and is associated with the Insurance Division of the American Management Association. He has taken prominent interest in fire prevention activities on both civic and state levels.



W. O. RANDLETT
Chairman of the Insurance Committee

Legal Committee

As in former years, periodic meetings for the interchange of information and ideas in connection with current legal problems will be held by the Legal Committee this year. Further, the Legal Committee, with D. BRUCE MANSFIELD, Ohio Edison Co., as chairman, will continue to study and report on particular matters which may be referred to it by the Institute or by any other of the EEI committees.

D. BRUCE MANSFIELD
Chairman of the Legal Committee

A Claims Conference will be held in Cleveland, Ohio, at the Hotel Cleveland on October 5 and 6, 1954, under the auspices of the Legal Committee, at which problems affecting claims and public relation departments will be discussed. This will be the second such conference, the first having been held in Cincinnati, Ohio, in 1952. The enthusiasm engendered at the Cincinnati conference is directly responsible for the scheduling of the second one. JOHN KEEGAN, General Attorney for Consolidated Edison Co. of New York, Inc., is chairman of the subcommittee in charge of the conference.

It is anticipated that the next meeting of the Legal Committee will be held in October and an agenda for that meeting is being prepared.

Chairman D. BRUCE MANSFIELD has been General Counsel for Ohio Edison Co. since 1948. He received his A. B. at Kenyon College in 1930, his LL.B. at Duke University in 1933 and his J.S.D. at Yale University in 1935. From 1934 to 1938 he was a professor of law at Temple University, leaving to serve as senior attorney of the Public Utilities Division of the Securities and Exchange Commission. In 1940 he was associate professor of law at the University of California. From 1941 to 1948 he was engaged in general law practice in Canton, Ohio. Mr. Mansfield has been a member of the EEI Legal Committee since its organization in 1950 and is a member of the Public Utility Law Section Council of the American Bar Association and former chairman of its Standing Committee. He is also a member of the Summit County, Ohio State and American Bar Associations.

Membership Committee

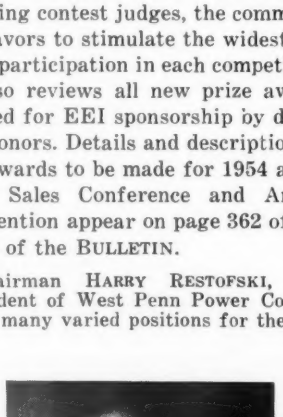
The primary function of the Membership Committee, under the chairmanship of EARLE S. THOMPSON, The West Penn Electric Co. (Inc.), is the examination of applications for membership in the Institute. The committee reports and makes recommendations directly to the EEI Board of Directors.

Chairman EARLE S. THOMPSON is President and Director of The West Penn Electric Co. (Inc.) A trustee and 1914 graduate of Bowdoin College, he served with the National Fire Insurance Co. and Hornblower & Weeks before joining the American Waterworks and Electric Co in 1923. In 1938 he was elected president and director of the latter company, predecessor of West Penn Electric. Among the companies of which he is a director are Monongahela Power Co., Potomac Edison Co., Windsore Coal Co., West Penn Railways, City Bank Farmers Trust Co. and Ritz-Carlton Hotel. He is also a trustee of the Dry Dock Savings Bank.

Prize Awards Committee

Under the leadership of Chairman HARRY RESTOFSKI, West Penn Power Co., the Prize Awards Committee conducts all EEI-sponsored prize contests with the exception of the Reddy Kilowatt Annual Report Award and the Charles A. Coffin Award. Besides appointing contest judges, the committee endeavors to stimulate the widest possible participation in each competition. It also reviews all new prize awards offered for EEI sponsorship by different donors. Details and descriptions of the awards to be made for 1954 at the EEI Sales Conference and Annual Convention appear on page 362 of this issue of the BULLETIN.

Chairman HARRY RESTOFSKI, Vice President of West Penn Power Co., has filled many varied positions for the com-



EARLE S. THOMPSON
Chairman of the Membership Committee

HARRY RESTOFSKI
Chairman of the Prize Awards Committee

pany since joining it in 1914 after his graduation from Ohio Northern University. Before assuming his present duties as the executive in charge of sales, rates, advertising and public relations, Mr Restofski held such key posts as general safety director, assistant to the president, training director, personnel director, sales promotion manager and general sales manager. He is a past chairman of the EEI Commercial Division General Committee and of the Better Light Better Sight Bureau.

Purchasing and Stores Committee

The Purchasing and Stores Committee, with J. D. HOGG, The Cleveland Electric Illuminating Co., as chairman, has planned a comprehensive and well-balanced program of subjects to be considered during the year which will culminate with the annual spring meeting of the group scheduled for May 9-11, 1955, in Birmingham, Ala. W. M. HOLLS, Consolidated Gas Electric Light and Power Co. of Baltimore is vice chairman for stores activities and E. N. SCOTT, Long Island Lighting Co. is vice chairman for purchasing activities. T. S. DUNSTAN, Consolidated Edison Co. of New York, Inc., will be secretary-treasurer. These officers and four members at large, O. H. AYDELOTTE, Public Service Co. of Colorado, R. A. CLARK, The Detroit Edison Co., G. H. COLE, Alabama Power Co., and J. B. HOMSHER, Gilbert Associates, Inc., and two past chairmen, C. F. OGDEN, The Detroit Edison Co., and C. H. ZURNIEDEN, Philadelphia Electric Co., comprise the Executive Committee of the group.

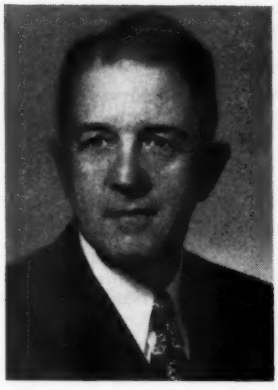
The use of repeat requisitions, proper control of tools and tool rooms and price analysis for determining a fair price will come up for consideration during the administrative year. The committee will also consider as projects such problems as those of streamlining stores and purchasing clerical operations and determining how the interest and cooperation of other departments offset materials and supplies inventory. Reports to management and performance analysis, the do's and don't's of testing, inspecting and accepting material and the analysis of the costs of a manufacturer's doing business are other tems of interest to be developed as subject material by committee members. A report of the activities of the Standard Packaging Subcommittee will also be part of the program.

In addition to the aforementioned Executive Committee members, the Purchasing and Stores Committee includes 64 active members, 21 correspondents, two representatives of a Canadian affiliate and one from Bermuda.

Suggestions received from members have been considered in determining the scope of subject matter to be developed in order to create wide general interest and stimulate membership participation in the projects to be undertaken. The annual spring meeting will be held at the Dinkler-Tutwiler Hotel in Birmingham, Ala., with Alabama Power Co., as host for the meeting. An interesting program is being planned, including the preparation of the subject matter mentioned previously, and visitation to the properties of Alabama Power Co., which is of practical interest to purchasing and stores personnel.

Chairman JOHN D. HOGG, a native of Canada, has been Purchasing Agent for The Cleveland Electric Illuminating Co. since joining the company in 1946. Following graduation as a mechanical engineer from the University of British Columbia, he worked for the Canadian General Electric Co. in Toronto and Peterboro, Ont., for two years. He next worked with the McLaren Advertising Co., Ltd., in Toronto for two years as account executive, moving to the Montreal Engineering Co., Ltd., as buyer in 1940. In 1942 he became purchasing agent there, remaining as such until joining Cleveland Electric. Mr. Hogg, who taught purchasing for three years at Cleveland College, is a past director of the Purchasing Agents Association of Cleveland and is presently chairman of its Educational Committee. He is a member of the Educational Committee of the National Association of Purchasing Agents, past chairman of the Public Utility Buyers' Group, and a member of AIEE and Cleveland Chamber of Commerce.

J. D. HOGG
Chairman of the Purchasing and Stores Committee



CHARLES A. WILLIAMS
Chairman of the Rate Research Committee

Rate Research Committee

Work of the Rate Research Committee falls into three general classes, information, technical and economics.

Information includes review and discussion of rate cases, important rate changes and other news of particular interest to rate engineers.

Technical subjects considered and discussed cover a wide range, from cost and load studies through the development of rate forms to the practical details of billing for service.

Economic material centers around the planning and conduct of a rate case. An example is the effect of inflationary trends upon certain theories of rate regulation, such as "net plant" and "cost of money." Others arise from changes in tax laws and depreciation methods.

This year the committee consists of 45 members from all parts of the country and is under the chairmanship of CHARLES A. WILLIAMS of The United Illuminating Co.

The committee is continuing its studies of residential load developments, particularly air conditioning,

house heating and water heating. Customer acceptance in these fields may require significant changes in rate structure to avoid serving these growing loads at too low a rate of return.

Several meetings are to be held during the year to discuss timely subjects and to exchange ideas and experience.

Chairman CHARLES A. WILLIAMS, Vice President of The United Illuminating Co., joined the Distribution Department of Philadelphia Electric Co. in 1922 upon graduation from MIT. He was later employed by Charles H. Tenney & Co., Boston, Mass., and by New England Power Association, where he became rate engineer. In 1939 he moved to New Haven, Conn., and has held his present position since 1940.

Research Advisory Committee

The Research Advisory Committee, under the chairmanship of R. E. MOODY of Union Electric Co. of Missouri, is a committee which outlines general policies to be followed by the Research Projects Committee. The latter represents the working group which screens research proposals and exercises general supervision over research projects. The Research Advisory Committee reviews recommendations for specific projects received from the Research Projects Committee, in the light of over-all research policy and of funds available, and passes them on with its recommendation to the EEI Board of Directors for final action. Therefore, this committee's activities for the remainder of the year will be determined largely by the activities of the Research Projects Committee.

In recent months, the Research Advisory Committee has recommended to the Board of Directors and has obtained its approval on research projects with respect to aluminum conductor fittings, wood poles, a metallurgical corrosion project and, recently, a project developed through the Electronics Subcommittee of the Accounting Committee to undertake a study of computing machines for accounting purposes.

Chairman RALPH E. MOODY, Chairman of the Board, Union Electric Co. of Missouri, is a 1913 electrical engineering graduate of the University of Wisconsin. Following graduation he worked as a maintenance man for The Milwaukee Electric Railway and Light Co., and became station statistician in 1914. In 1919 he organized the company's Research Bureau as assistant research engineer and became research engineer in 1921. In 1928 he became assistant to the president, assuming the added positions of vice president of Wisconsin Michigan Power Co. in 1932 and vice president and general manager of Wisconsin Gas & Electric Co. He held those three jobs until 1940, when he became vice president and director of the North American Co. and director of its subsidiaries. In 1941 he became vice president and director of Union Electric Co. of Missouri and its subsidiaries. Six years later he was named executive vice president, assuming the added duties of general manager in 1952. He was elected to his present position in September, 1954. Mr. Moody is also a vice president and director of Electric Energy, Inc.

R. E. MOODY
Chairman of the Research Advisory Committee

Research Projects Committee

The great value of useful and effective research is recognized by the Institute. To provide a systematic procedure for the screening and evaluation of all requests for the contribution of funds by EEI in support of research, the Board of Directors established the Research Projects Committee, the Chairman of which this year is C. W. FRANKLIN of Consolidated Edison Co. of New York, Inc. This committee keeps generally aware of major research activity bearing on the electric utility industry, not only to avoid duplication in approving requests for support of research, but also to see that the electric utility interest is represented.

C. W. FRANKLIN
Chairman of the Research Projects Committee

Proposals for research naturally arise out of problems encountered in utility company operating experience. EEI committees are encouraged to develop and bring to the attention of the Research Projects Committee proposals for research in their respective fields which, in their judgment, merit support on an industry-wide basis. Requests for support of projects related to the utility industry also come to the committee from outside groups. In screening projects the committee gives particular attention to the stated objectives, cost and time estimates, proposed arrangements for supervision of research work and the general method of carrying out the program. Proposals found acceptable are referred to the Research Advisory Committee of the Board of Directors with recommendations for adoption and the provision of funds. The Research Projects Committee thereafter maintains general supervision over the technical progress and financial status of the projects for which EEI support is authorized by the Board.

Chairman C. W. FRANKLIN has been Electrical Engineer of Consolidated Edison Co. of New York, Inc., since 1940. Since graduating from Georgia Institute of Technology in 1915, his entire business career has been spent with Con Edison and its predecessor companies. Prior to assuming his present duties, Mr. Franklin served in various capacities in the Construction, Operating and Engineering Departments of Con Edison.

Statistical Committee

Among the activities of the Statistical Committee, which this year is under the chairmanship of ROY F. CRIM of West Penn Power Co., is the continued improvement of the very fine publication, the annual EEI *Statistical Bulletin* covering statistics of the electric utility industry in the United States. The *Weekly Electric Output Index* is another project requiring technical skill in its refinement. Studies are being conducted on the impact on the Index of energy used by the AEC and the new pattern being set by air-conditioning requirements, which is changing the seasonal output pattern.

The *Glossary of Electric Terms*, a new publication prepared by the Statistical Committee, is being prepared for its first revision.

A subcommittee currently is working on a uniform classification of electric utility employees and payroll, to add such information in the *Statistical Bulletin*. This is being done to answer requests for such data.

At each meeting the work of the EEI statistician is reviewed with him and, when necessary, appropriate committees help solve his problems.

A new project committee on budgets has been established to assist members and others interested in budgets—again in answer to many requests for such information.

The next meeting of this committee is scheduled for October 18 and 19.

Chairman ROY F. CRIM, Supervisor of Statistics at West Penn Power Co., is a 1923 mechanical engineering graduate of Oregon State College. A World War I veteran, he spent some time immediately following college with Westinghouse Electric Corp. at East Pittsburgh, Pa., having signed up for design engineering in his junior year at Oregon State. Shortly afterwards he joined West Penn Power, where he held several positions before assuming his present duties.

Tax Policy Committee

The Tax Policy Committee devotes its attention to the broader aspects of taxation affecting electric utility companies. It studies not only taxes directly affecting the companies, but the matter of taxes paid by investors on dividends (double taxation), the removal of tax exemptions of governmental proprietary power businesses to correct the existing unfairness that these exemptions entail upon electric customers of the power companies, the removal of exemptions from taxation of securities issued by governmental proprietary power businesses and tax questions affecting industry in general.

ROY F. CRIM
Chairman of the Statistical Committee

R. P. BRIGGS
Chairman of the Tax Policy Committee

The chairman or members of the committee have made several appearances before the appropriate committees of Congress to present the views of the electric utilities on tax legislation under consideration by those committees. The committee also keeps in touch with the tax studies and policies of other trade organizations.

The membership of the committee is R. P. BRIGGS, Consumers Power Co., Chairman; A. M. BEEBEE, Rochester Gas and Electric Corp.; C. P. CRANE, Consolidated Gas Electric Light and Power Co. of Baltimore; E. H. DIXON, Middle South Utilities, Inc.; J. E. LOISEAU, Public Service Co. of Colorado; C. B. MCMANUS, The Southern Co., Inc.; C. E. OAKES, Pennsylvania Power & Light Co.; N. R. SUTHERLAND, Pacific Gas and Electric Co.; and C. A. PALMGREN, JR., Chairman of the Taxation Accounting Committee, Ex-Officio, New Orleans Public Service Inc.

Chairman ROBERT P. BRIGGS has been Executive Vice President and Director of Consumers Power Co. since early in 1952. He received his master's degree in 1928 from the University of Michigan, which he had joined as a faculty member in 1927. For two years prior to 1927 he had served as acting dean of the Business Administration School of Kansas Wesleyan University. On the Michigan faculty he held associate professorships in both economics and accounting and served as vice president in charge of all the university's business and finance. He joined Consumers Power in 1951 as financial vice president and director. During World War II Mr. Briggs was chief of administration of the Army Ordnance District in Detroit. He has been a CPA in Michigan since 1933 and has been an active member and officer of numerous accounting associations. Mr. Briggs, in addition to EEI committee work, is presently a member of EEI Board of Directors.

Transportation Committee

The Transportation Committee, with RANDOLPH WHITFIELD, Georgia Power Co., as Chairman, will conduct its activities jointly with the AGA Automotive and Mobile Equipment Committee again this year, as has been the policy of previous years. A joint conference of the two committees was held in Montreal, Que., in April with over 100 utility fleet operators in attendance from all sections of the United States and Canada. A workshop meeting of the members of the joint committee was held in New York in September to plan the year's activities and to arrange the program for the next Annual Conference of Utility Fleet Operators to be held in the spring of 1955.

Three standing subcommittees are making surveys and studies on (1) vehicle selection for various types of utility service, (2) training drivers to operate specialized equipment and (3) the preventive maintenance of heavy equipment. Final subcommittee reports on these and other subjects will be made at the next Annual Conference of Utility Fleet Operators, previously referred to.

Chairman RANDOLPH WHITFIELD has general supervision of Georgia Power Co.'s fleet of 1250 motor vehicles. A native of Florida, he was graduated from the Georgia Institute of Technology with B.S. and M.S. degrees in mechanical engineering. Before joining Georgia Power in 1934 he worked for the Ford Motor Co. and for General Motors Corp. During World War II he served as automotive consultant to the U. S. Army and maintenance consultant to the Office of Defense Transportation. He is a licensed professional engineer in Georgia and a member of the Georgia Engineering Society and the Society of Automotive Engineers, having served as head of the latter organization in Atlanta.

RANDOLPH WHITFIELD
Chairman of the Transportation Committee

EEI Engineering Committees

Engineering Division General Committee

The Engineering Division General Committee, whose chairman this year is E. L. HOUGH, Union Electric Co. of Missouri, serves as a coordinating agency for the activities of the five engineering committees which constitute the Enginering Division and deals with engineering matters of a more general nature than those covered by the other committees. The committee membership consists of the chairmen of the five engineering committees and 15 members-at-large.

This committee is responsible for the general guidance of the five engineering committees in policy matters and for correlating their work in order to avoid duplication of effort. In addition, the committee has two subcommittees. One is the Air Pollution Subcommittee, under the chairmanship of G. V. WILLIAMSON, Union Electric Co. of Missouri, which has been collaborating with a similar group of AEIC in problems of air pollution and smoke prevention. Another is the Codes and Standards Correlating Subcommittee, of which P. H. CHASE, Philadelphia Electric Co., is chairman. This subcommittee considers matters of standarization, particularly where coordination is desirable between different groups of electric company representatives working on correlated subjects, such as National Codes developed under the auspices of the American Standards Association.

E. L. HOUGH
Chairman of the Engineering Division General Committee

Chairman E. L. HOUGH has been Vice President and Chief Engineer of Union Electric Co. of Missouri since 1953. A 1922 graduate of the University of North Dakota, he joined Union Electric as an electrical engineer in 1928, after spending six years with General Electric Co. With Union Electric, he became chief design engineer in 1943 and chief engineer in 1951. A fellow of AIEE, Mr. Hough has been a member of the Electrical Equipment Committee and the Engineering Division General Committee, before becoming chairman of the latter.

Electrical Equipment Committee

The Electrical Equipment Committee, under its chairman, C. L. DERRICK, The Hartford Electric Light Co., and vice chairman, H. E. DEARDORFF, The Dayton Power and Light Co., will follow generally the pattern established by this committee in the past. There will be, however, several important changes in the division chairmen and key personnel of the committee.

The Apparatus and Design Division will be under the chairmanship of STANLEY C. TOWNSEND, Pennsylvania Power & Light Co., and will continue to sponsor studies of design trends of the electrical features of generating stations, switching stations and substations. As usual, a major part of this group's activities will be the following and reporting on design and performance of major electrical equipment. One of the special problems being followed by this group is the matter of reduction in transformer noise, which has received considerable industry-wide attention in recent years. Inspection trips to interesting installations will continue to be a featured part of the program.

The System and Apparatus Troubles Division will continue under the chairmanship of D. W. TAYLOR, Public Service Electric and Gas Co., and will bring to the committee summaries of all electrical equipment troubles, with special presentations of those cases of outstanding interest. These reports are presented in closed sessions of the committee's meetings and have come to be one of the most interesting and valuable parts of the program.

The System Engineering Division will continue to be headed by Mr. Deardorff. A very important new feature has been added to this division with the formation last spring of a System Planning Subcommittee under the chairmanship of R. G. MEYERAND, Union Electric Co. of Missouri. This new planning group will function as a subcommittee of the Electrical Equipment Committee, in accordance with recommendations made last year by the Engineering Division General Committee. Its membership is made up of representatives from three EEI engineering committees, plus a group not directly associated with any of the regular committees, whose members are concerned with this type of work in their operating companies.

The new chairman of the Operating and Maintenance Division is R. M. PENNYPACKER, Philadelphia Electric Co. In addition to the usual activities of this group it is expected that this year will see a closer relationship established with the Insurance Committee of the Institute in the matter of fire-protection standards and practices.

A. V. DEBEECH of Canadian-Brazilian Services in Toronto, will continue as chairman of the Foreign Practice Division and, as such, will continue to maintain the interesting contacts with our many foreign correspondents. It is expected that one of the most interesting features of the October meeting will result from activities of this group, when one of the most active correspondents, Ivar Herlitz of Sweden, will be in attendance and will report on several interesting aspects of technical developments in his country.

The October meeting is scheduled for October 11-12 at the new Statler

C. L. DERRICK
Chairman of the Electrical Equipment Committee

Hotel in Hartford, Conn. The February, 1955, meeting is planned for Columbus, Ohio.

Chairman CHARLES L. DERRICK, Vice President of The Hartford Electric Light Co., is a 1923 electrical engineering graduate of Lehigh University. Prior to joining Hartford Electric Light in 1942 as assistant engineer, he served in various engineering capacities for Public Service Electric and Gas Co. for 19 years. He next served the Hartford company as superintendent of engineering, becoming assistant to the vice president in charge of operating departments in 1950 and assistant vice president in 1951. Later in 1951 he assumed his present duties. In addition to EEI committee work, Mr. Derrick is a member of AIEE and a former secretary of the City Club of Hartford, Conn.

Hydraulic Power Committee

The Hydraulic Power Committee, of which P. M. HESS, Pennsylvania Water & Power Co., is chairman, devotes its activities to the study of the design, construction, characteristics, operation and maintenance of all hydraulic and mechanical apparatus and equipment required or used in hydroelectric plants, including reservoirs, dams, buildings, structures and devices. Its interests also include studies and dissemination of data to assist prediction of weather conditions which effect operations. The committee is composed of 27 members, who represent utilities and industrial and engineering organizations located throughout the United States.

The committee customarily holds one meeting a year. This past year the meeting was held in Chicago in conjunction with the joint engineering committees' meeting. Since it is the custom for this joint engineering committee to meet in Chicago every other year, advantage is taken of the alternate years to hold the Hydraulic Power Committee meeting at various regions in the United States where hydroelectric projects of interest can be inspected as a part of the meeting agenda. Although definite plans for the meeting this coming year have not yet been formulated, tentative arrangements are being considered for holding the meeting in Atlanta, Ga.

During the past year members of the committee took an active part in assisting with the preparation of a report to be issued in the near future covering "Turbine Settings and Draft Tubes," which will be of much value to the hydraulic industry. In addition to the presentation of sub-

P. M. HESS
Chairman of the Hydraulic Power Committee

committee reports, including a progress report on "Artificial Precipitation," very interesting subjects were presented and discussed, including concrete maintenance problems, utilization of fly ash in concrete work, water hammer and associated problems in steam station condensing water lines, economics of underground power houses, recent developments in hydroelectric equipment and hydro turbine governing apparatus, modernization and improvement of efficiency of older and smaller hydro plants and numerous general operating and maintenance problems.

On the agenda for the contemplated meeting this year will be a continuation of discussions of most of the subjects included in the Chicago meeting, with additional emphasis placed on the utilization of fly ash in hydraulic structures and economics in the construction, operation and maintenance of hydroelectric projects.

Chairman P. M. HESS, Assistant Superintendent of Operations, Pennsylvania Water & Power Co., graduated in 1920 from Swarthmore College with A.B. and E. E. degrees. After service with General Electric Co., he joined Pennsylvania Water & Power Co. in 1922 as a test engineer, later becoming operating engineer, pioneering in the pulverizing and burning of river-bottom anthracite coal. In 1931 he became associated with the Safe Harbor Water Power Corp. as station superintendent, directing his attention to the use of stainless steel to combat pitting in Kaplan turbines, studies of ice movements in rivers and methods of providing better protective coatings for underwater structures. Author of numerous technical articles on the results of his research, he is past chairman of the PEA Engineering Section.

C. V. MOREY
Chairman of the Meter and Service Committee

Meter and Service Committee

The Meter and Service Committee, in its second year under the chairmanship of C. V. MOREY, Consolidated Edison Co. of New York, Inc., will continue along the same organizational lines as in previous years.

The committee is made up of four divisions, which are assigned subjects falling within the scopes of service equipment, meters and metering equipment, codes and rules, and meter department management. It meets jointly with the AEIC Committee on Metering and Service Methods. Subject assignments are made to specific individuals within each division by the division chairman and, until such time as the item is disposed of, each individual functions as a subject chairman with the entire division acting as a subcommittee.

The most important topics under consideration this year are the preparation of a joint EEI-AEIC-NEMA Standard for Watthour Meters and of an educational course for metermen to be made available to member companies to aid in the training of their employees.

Several of the subjects which will remain active this year are of a continuing nature, the member to whom the subject assignment is made acting as a clearing house for the collection and dissemination of current information to member companies as new developments arise. Included in this group are corrosion prevention, methods of making large-capacity low-voltage metering installations, aluminum to brass or copper connections, important changes in meter or service regulations in national codes or in municipal or state legislation and new or revised state commission rulings on meters.

The committee also will be actively engaged in the revision of previously published *Standards for Watthour Meter Sockets* (MSJ-7), *Standards for Indicating Demand Registers* (MSJ-4), and *Specifications for Indicating Thermal Watt Demand Meters* (MS-5). The first two are joint standards with NEMA and the last is to be adopted as a joint standard after revision. Two new subjects have just reached the completion stage and are ready for publication. They are: *Specifications for Test Switches for Transformer-Rated Meters* (MS-9) and *Standards for Metering Current Transformers* (MSJ-2), the latter being a joint standard with NEMA.

Other subjects actively being engaged in include the collection of meter performance data with a view towards recommending revision of the periodic meter test schedules shown in the ASA Code for Electricity Meters, a study of meter department records with a view towards their simplification and a study of meter obsolescence from the viewpoint of the adequacy of meters now in service for use on present and anticipated loads.

The committee will meet twice during this administrative year, the first meeting to be at the Hotel Leland, Springfield, Ill., on September 27-29, 1954. The second meeting is being planned for April 25-27, 1955, at Durham, N. C.

Chairman C. V. MOREY, Meter Engineer for Consolidated Edison Co. of New York, Inc., graduated from Worcester Polytechnic Institute in 1925 and has been with Consolidated Edison or its predecessor companies since. Mr. Morey has been engaged entirely in metering activities for Consolidated Edison with the exception of three years spent in other departments in connection with the company's executive development program. He has been a member of the Meter and Service Committee since 1946 and has served successively as Secretary and Vice-Chairman prior to becoming Chairman.

Prime Movers Committee

Within its field, the Prime Movers Committee, under the chairmanship of W. L. CHADWICK, Southern California Edison Co., will continue to follow out the objectives of the Institute as restated by President Quinton last June in Atlantic City, namely:

(1) ". . . advancement of the art of production, . . . and the promotion of scientific research in such field.

(2) ". . . to aid operating companies to generate . . . electric energy at the lowest possible price commensurate with safe and adequate service.

(3) ". . . to compile and furnish statistical and other information to members of the Institute. . . ."

W. L. CHADWICK
Chairman of the Prime Movers Committee

These objectives will be carried out through the subcommittees, through contact members with other groups and organizations and through round-table reporting and discussion of operating problems. The latter, round-table reporting and discussion, has been a major Prime Movers Committee activity for many years.

One research project into the causes and control of the formation of iron oxide in high-temperature boilers will be carried on directly by the committee, acting through a special committee consisting of FRED W. ARGUE, Stone & Webster Engineering Corp., Chairman; R. G. CALL, American Gas and Electric Service Corp.; V. F. ESTCOURT, Pacific Gas and Electric Co.; and SHEPARD T. POWELL, Consulting Chemical Engineer. A contract has been entered into with Battelle Institute at Columbus, Ohio, to carry out the investigation work.

J. W. ANDERSON
Chairman of the Transmission and Distribution Committee

Included among the 17 subcommittees are two subcommittees which will keep the committee up to date on the important new developments in metallurgy as it affects high temperature service and in atomic power.

The roster includes 84 members from 65 companies, geographically covering the entire country. A number of guests attend who aid the committee by covering specialized fields affecting the committee's work.

Meetings during the 1954-55 administrative year are as follows:

Albany, N. Y., October 3-4-5, 1954; New York, N. Y., November 29-30; Mobile, Ala., January 31-February 1, 1955; Los Angeles, Calif., May 9-10, 1955.

J. M. DRISCOLL, Consolidated Edison Co. of New York, Inc., is secretary of the committee and V. L. STONE, Commonwealth Edison Co., is round-table chairman.

Chairman W. L. CHADWICK has been Vice President in Charge of Engineering and Construction for Southern California Edison Co. since 1951. He received his education at the University of Redlands and has been with Southern California Edison in various capacities since 1922, with the exception of six and one-half years between 1931 and 1937 when he served with the Metropolitan Water District of Southern California. He has been a member of the EEI Prime Movers Committee since 1946 and since 1949 has served successively as round-table chairman and as secretary.

Transmission and Distribution Committee

The Transmission and Distribution Committee, under the chairmanship of JOHN W. ANDERSON, Philadelphia Electric Co., serves as a forum for the discussion of current problems relating to the design and operation of the transmission and distribution system.

During the coming year the committee will continue its study of several critical problems, including higher primary and secondary distribution voltages, the effect of the rapidly increasing air-conditioning loads on distribution systems and the use of aluminum conductor, particularly the problems of splicing and tapping to other conductors of the same or different material. The first phase of research work on the char-

(*Continued on page* 350)

Problems and Accomplishments in Engineering, Operations, and Planning

R. G. Rincliffe
President, Philadelphia Electric Company

An address before the Pennsylvania Electric Association Symposium on Progress, Problems, and Plans, Pittsburgh, Pa., September 15, 1954

ENGINEERING, operations, and planning comprise most important topics in view of the traditional aim of the electric industry to supply service as perfect and as economical as is humanly possible.

The obstacles which plagued the pioneers of the electric industry were many. Electric power was expensive, five to seven times the present average residential rate. Quality of service was poor and electricity was feared and still to be accepted by the public.

Today electric power is an integral part of our way of life. Its indispensability emphasizes the basic obligations of the industry. Service must be maintained under all conditions. We are on call night and day, rain or shine, Sundays and holidays. We must respond to calls for aid in face of storms, disaster, and personal danger. In meeting these responsibilities the electric light and power industry has developed a spirit of dedication to the ideals of public service. In so doing, it has earned a high degree of public respect and confidence.

Electricity Increases Production

Since the birth of the electric industry 75 years ago, American wage earners have enjoyed a tremendous increase in the availability of mechanical power, mostly in the form of electric motors. Today each worker has the equivalent of 253 invisible workmen at his side. It is estimated that the next generation of American wage earners will have twice as many of these electrical helpers.

The use of electricity in the home is also noteworthy. Currently, it is at the rate of more than 2500 kwhr annually, as compared with half that amount only ten years ago; and the load potentialities have scarcely been tapped.

Better health, greater comforts, new luxuries, and more pleasures lie in store for the people of this country through electric power. It is the great importance of these things to all of us that emphasizes the vital position electric companies will hold in the years ahead. The industry has become the pace setter for the high standards of American life, for without accurate long-range planning and wisely timed expansion of facilities by the nation's electric light and power companies, development and progress would be virtually impossible.

Utility Operations Regulated

Planning expansion of an electric company system is quite different from the planning of other industries. An electric company operates within a well-defined but limited territory. It is regulated by Federal and state laws and commission rulings, including a restriction of the rate of return on invested capital.

Because of the relatively large investment in plant, a long period of usefulness is paramount. Thus, what is being done today is related to decisions made ten, 20, or 30 years ago. Likewise, today's planning will affect operations far into the future.

It is conservatively estimated that the demand for electricity within the next 50 years will be more than six times present levels. This means that the industry will be obliged to build, within that period, the equivalent of five more systems the size of the one we are now operating.

With building costs being what they are today—and there appears to be no relief in sight—this tremendous task will create many new problems. Perhaps the most important consideration is the need to scrutinize all costs if we are to keep capital expenditures within reason. Without this scrutiny, soaring charges could weaken the position of the industry.

Prior to the inflationary effects of World War II, electric service prices followed a declining trend, largely because of the spectacular growth of the industry which brought increasing customer density, concentration of load, and operating efficiency. Now, however, large-scale basic and applied research is essential if progress along these lines is to be continued.

More than 90 per cent of the investor-owned electric light and power companies in this country participate in scores of research projects through the Edison Electric Institute and other industry-association activities. This meeting today is an excellent example of inter-industry cooperation. In addition, many individual and group atomic-energy projects are being actively developed by the electric companies and associates.

Atomic energy, of course, occupies a most prominent spot in the future. Pennsylvania electric companies have taken the lead in nuclear-power development. Duquesne Light Co., when it completed an agreement with the Atomic Energy Commission to operate the country's first full-scale power plant, made a noteworthy contribution toward the principle that it is right and proper that investor-owned, business-managed, tax-paying electric light and power companies should own and operate nuclear-power plants. Duquesne's agreement with the Atomic Energy Commission represents, in my opinion, an extremely important forward step toward complete justification of the recent revision of the Atomic Energy Act.

Research Rapidly Progressing

Other Pennsylvania electric companies have joined the Dow-Detroit group for research and development of a breeder-type atomic reactor. This group has carried its research to the point where the project is nearly out of the paper study level and into a stage where actual physical development will be possible. The aim of the project, as many of you know, is to develop by breeding a new source of heat energy, namely, nuclear fuels,

to compete commercially with conventional fuels. It is hoped that it will be possible to do this by releasing and utilizing heat from the fission process for economical production of electric power, as well as the production of high-grade by-product fuel.

When the goal of producing nuclear-electric power on a competitive basis will be reached is, of course, a matter of conjecture. Estimates range from five to 20 years. However, it is a certainty that this goal will be reached, and this must be taken into consideration in present-day planning.

Harnessing Solar Energy

Recent newspaper reports and magazine advertisements featuring ways to capture energy from the sun have highlighted progress in man's efforts to harness this source of power.

Constant probing into the secrets of Nature for the benefit of mankind will someday be climaxed by the discovery of a practical way to obtain usable amounts of solar energy. Developments in this field are being closely watched by electric company engineers.

In recent years the electric industry has enjoyed marked success in controlling costs in the face of the almost irresistible pressures of inflation. Capital investment has been kept at a minimum consistent with good service and maximum economy. This is important because fixed charges are a major factor in establishing electric rates. Nearly 50 per cent of the total cost of public utility service is comprised of interest, dividends, insurance, taxes, and depreciation. The electric industry requires more than four years' revenue to equal the amount of its capital, while in many other industries one year's revenue may equal several times the total capital invested.

Cost of Electric Service Down

Perhaps the most impressive evidence that the fight against inflation has been successful is the fact that electric service has taken a smaller percentage of family, business, and industrial budgets while living costs, generally, have spiraled to a point where most goods and services cost double or triple the amount they did before World War II.

The electric industry has taken great strides in reducing the cost of new installations. Of particular interest is the use of semi-outdoor-type generating-station construction, in which the enclosing building is eliminated around much of the boiler and boiler equipment.

Operating economies also have been effected. The use of larger generating units and higher temperatures and pressures, together with reheat, for example, have produced many savings.

Today we need to examine a new plateau with regard to pressure and temperature and the type of heat cycle to be employed. Such questions as use of super-critical pressure and double reheat must be studied and evaluated with respect to their economic gain. Forced cooling has opened the way to larger single-shaft generating units, up to 275,000 to 300,000 kw each. The gain in using more complex cycles in the larger-size units may warrant the increased cost.

Automation

Another important factor in present steam generating plants, and one that will play an increasingly vital role in future plans, is automation. One hears today the term "automatic factory" spoken as if it is yet to materialize. But certainly the application of feedwater, combustion, and temperature controls on large steam generators has been standard for quite some time and, in a sense, has made the modern generating station an automatic factory.

Recently 250,000 kw of generating capacity, consisting of two 125,000-kw machines, were added at a Philadelphia Electric station. The new section is adjacent to the old plant, built in the early 1920's, which has six smaller generators totalling 186,000 kw of capacity. While only five operators per shift are required in the new section, 26 men per shift are required to operate the old machines. At another completely new station only eight men per shift are needed to control the generation of 350,000 kw.

Advancement in steam-generating and steam-turbine equipment design contributed materially to these savings, but advancement in instrumentation and control systems were required to make them a practical operating reality.

Important progress has been made in standardizing electrical-equipment design. Manufacturing and electric company engineers have worked as a team, the manufacturer supplying the laboratory and the electric company supplying the workshop.

Electric company engineers have eliminated unnecessary requirements to permit industry agreement on standards for important electrical equipment, such as switchgear and transformers. Pennsylvania Electric Association and Edison Electric Institute committees have taken an active part in establishing within the industry the real needs of the utilities and have thus provided the basis for equipment standards.

Engineering Developments

The manufacturers' engineers, by developing designs which meet normal electric company requirements, have made it possible to apply mass-production techniques in the factory. In addition, they have provided utility engineers with improved design, as a result of intensive research programs. The electric companies, through their own industry organizations, have supported other types of research for the benefit of the electrical industry.

The over-all result of these efforts has been savings, not only in basic equipment elements, but also in the assembly of equipment, since standardization has made possible factory assembly of such large electrical equipment as metalclad switchgear, unit-type substations, and metal-enclosed bus runs and structures.

The use of remote control and telemetering equipment has brought about certain operating economies. It is necessary, of course, in designing these installations, to simplify bus layouts to minimize complications in emergencies.

Aluminum Finding Wider Use

The electric industry has accepted wider use of aluminum, particularly for aerial-type construction. The use of this material was given impetus by the shortage of copper in 1950 and 1951. It was soon discovered that it had an economical advantage if proper techniques were applied. Philadelphia Electric saved more than 30 per cent in the construction of its Cromby substation by use of welded aluminum connectors and tube aluminum section supports, rather than conventional construction methods. Electric company engineers, generally, have made good use of this material and in-

creased savings will continue in the future.

Centralized maintenance of generating-station equipment also has contributed worth-while economies. Under such a system, the supervision and necessary shop equipment is concentrated at one place to provide for all large maintenance jobs and work applicable to the entire system.

Centralization of maintenance forces results in economy of manpower, flexibility of repair operations, and the organization of larger groups of specialists for handling work on individual pieces of equipment. The net result has been the ability to reduce outage time on major equipment.

Before generating equipment is shut down, the penalty of having the unit out of service is calculated. This cost determines whether overtime is indicated to minimize the outage time. Once established, the replacement cost penalty is made known to the maintenance forces, who are thus challenged to complete the job as swiftly as possible.

The cost to take a modern unit out of service is appreciable. For example, the new 150,000-kw unit at Cromby represents an outage cost of about $8000 a day. For the entire Philadelphia Electric system the cost of outages during 1953 totaled more than $1,300,000.

Interconnections Bring Savings

Further economies have been achieved through the use of interconnections. Under the Pennsylvania-New Jersey Interconnection agreement, the three member companies interchange power over interconnection tie lines. In addition, each of the member companies has agreements with other adjacent companies for interchange of power. There are a total of 12 companies operating on a coordinated basis, scheduling and loading their respective generating capacity for maximum economy as if they were one company.

Interconnection results in two major savings. First, it provides for a reduction in total capacity requirements, both installed and operating, because of the load diversity and forecasting error diversity of the three systems and the reduction in reserves required. Secondly, the systems involved are operated in such a way as to obtain the most economical overall operation.

This arrangement is unusual in that the total savings thus made are shared on a split-savings basis among the participating companies after they have been affected. The interconnection also provides scheduling for a coordinated maintenance program among the companies involved. This results in further economies and permits the installation of larger machines than could be supported by the individual companies.

This kind of inter-company cooperation is reflected in other phases of our business. For example, seven Pennsylvania, New Jersey, and Delaware electric companies recently joined together to acquire the world's largest network calculator now in operation in Philadelphia. This installation will save thousands of engineering man-hours each year.

Advances Through Chemistry

In the field of chemistry the use of synthetic resins has made it possible to meet requirements for ever-increasing quantities of pure water for high-pressure boilers. Boilers could not be operated at the super-pressures now contemplated without extremely pure water. The new plant to be built by Philadelphia Electric, announced late in August, will utilize the highest steam pressure and temperature of any existing or projected power plant in the world—5000 psi and 1200 F—thanks to pure water. Techniques for cleaning boilers by acid wash also have been developed and are used almost exclusively to eliminate boring and turbining. Savings in maintenance costs and reduction of outage time, for these reasons, have been considerable.

Storm Proofing of Service

Over the past few years it has become increasingly apparent that the effect of electric outages caused by storms has increased in magnitude. Public clamor, deprecating long service interruptions, is a strong hint to all of us to examine policies to the end that steps will be taken to minimize the effects, not only of severe storms, but also of the ordinary damage caused by normal bad weather conditions.

Specific steps taken by Philadelphia Electric to prevent storm damage may be divided into two major classes. First, the re-evaluation of long-range policies dealing with such things as storm-proof construction and maintenance standards which will equip the system to withstand storm damage without widespread and serious service losses and, secondly, the development of a plan that can be applied immediately in storm-caused emergencies.

The production, publication, and distribution throughout an electric company of a comprehensive storm-damage procedure for emergency restoration of service is a major tool that not only guides actual service restorations but also encourages the comprehensive short-term planning needed to keep pace with constantly changing system requirements.

The mutual-assistance plan fostered by the Pennsylvania Electric Association, which now includes not only Pennsylvania companies but many other companies from neighboring states, is an illustration of long-range planning that pays off in shortened customer outages during catastrophes.

These are but a few of the highlights of the industry's engineering, operations, and planning problems and accomplisments. Although an excellent job has been done, the challenge of the future looms large.

An Ironic Situation

One growing problem is that of increasing objection on the part of property owners to the installation of new electric company facilities in their respective neighborhoods. The irony of the situation is that as the need for electric service increases, we seem to incur greater opposition to locating our facilities within the area for which the service is required.

It is becoming more and more difficult to obtain sites for generating stations and substations, especially in the metropolitan areas where unused property is at a premium. Furthermore, it is necessary to provide our substation facilities near residential areas. This makes it essential to use great care in our relations with local citizens so that by amicable agreement we may obtain approval to use property at the locations best suited for the service that is needed by the community.

Electric companies have been careful to provide suitable landscaping and architectural features and to keep

annoyances, such as noise, at a minimum. However, present indications are that efforts to reduce annoyances resulting from facilities and plans to increase their attractiveness must be accelerated. When it is necessary to add new structural facilities, the buildings should raise, not lower, the level of the community.

Another big problem which lies ahead, as I see it, will be to attract trained personnel who have the technical background, mental capacity, and spirit of public service in combination to do this job. Specifically, one of the greatest present-day needs of the electric light and power industry is trained engineers. It is essential that the industry, generally, should come to the aid of educators to provide facilities and means whereby this growing need can be filled. It is equally essential that the professional engineer, both individually and collectively, should encourage young people to enter this field and become part of the parade of progress.

The record of the engineering profession is one of which to be proud, particularly as it is revealed in the accomplishments of the electric industry. These achievements are indeed a tribute to the technological standards of the men in the industry, and will stand as an enviable mark for workers in every field for years to come.

In conclusion, may I say that my remarks have been confined to engineering, operating, and planning problems because that has been my assignment. All of you will agree, I am sure, that the operation of a public utility is a team project, which requires the cooperative effort of men and women possessing all kinds of talents and all kinds of skills. No one group can function without the help and support of the others. The industry has clearly demonstrated by past performances that it has this *esprit de corps*. I am certain it will always enjoy this rare distinction.

EEI General and Engineering Committee Activities for 1954-55

(*Continued from page* 346)

acteristics of aluminum conductor has just been completed by the Armour Institute of Technology and recommendations for the next phase are in preparation. Another continuing activity is revision of the *Underground Systems' Reference Book*. This task has been organized by J. A. PULSFORD, Public Service Electric and Gas Co., as editor-in-chief, and much of the new book has been written.

As a new activity the committee is representing the Institute in co-sponsoring with the National Shade Tree Conference and the Illuminating Engineering Society, a Street Tree and Utility Conference to be held in Cleveland on March 3-4, 1955. The purpose of this Conference is to promulgate on a national scale a long-range tree planting program which, through the proper selection of tree species, will enhance the beauty of public highways, provide better street lighting and, at the same time, improve electric service continuity and reduce tree trimming costs. Some utilities are already engaged in programs of this kind, and the committee will devote considerable attention to this subject during the year.

The committee will continue its basic organization with five separate functional sponsorships.

W. L. VEST, of Western Massachusetts Electric Co., is again sponsor of the Standards and Specifications Group, which continues the activity of several subcommittees studying line hardware, timber products, underground cable connectors, fuses, cutouts and reclosers and street lighting equipment. The committee is particularly grateful to members of these subcommittees who expend considerable amounts of personal time in their contribution to the general good.

Distribution system loading, as affected by air conditioning, has caused considerable concern among operating companies and the committee expects to give this matter major attention during the coming year. These and related problems will be handled by the General Engineering Group, of which DAVID BURNS, The Detroit Edison Co., is sponsor. His group is also concerned with the problems of higher primary and secondary distribution voltages as well as other topics of general engineering nature.

M. H. PRATT, Niagara Mohawk Power Corp., continues as sponsor of the Overhead Group. This group is concerned with problems resulting from the use of aluminum conductor and is currently following the progress of the ASTM Wood Pole Testing Program. This group is also actively engaged in program plans for the Street Tree and Utility Conference, previously mentioned.

The Underground Group, under the sponsorship of H. E. CODY, The Cleveland Electric Illuminating Co., will continue the preparation of the network and cable operation reports and expects this year to devote considerable attention to relatively low cost underground radial distribution systems for both urban and suburban areas.

Safety considerations and accident prevention problems receive a great deal of attention at each committee meeting. W. M. PENNEY of the Union Electric Co. of Missouri, is sponsor of the Safety Group. The committee will consider all phases of accident prevention work in the transmission and distribution system, and a joint meeting with the Accident Prevention Committee is scheduled for February, 1955.

The committee will hold its usual three meetings during the year. The October meeting will be held in San Francisco, the winter meeting in Washington in February, and the spring meeting in Detroit in May.

Chairman J. W. ANDERSON is General Superintendent of the Philadelphia Division, Transmission and Distribution Department, Philadelphia Electric Co. A graduate of the University of Delaware, he is a registered professional engineer in Pennsylvania. Joining Philadelphia Electric in 1922, he started with assignments in power plant and substation design, eventually becoming engineer in charge of system planning in the Electrical Engineering Department. In the transmission and distribution operating organization since 1939, he has been in active charge of the Philadelphia Division since 1942. Mr. Anderson is a member of the AIEE, Franklin Institute, Engineer's Club of Philadelphia, and was a member of the PEA T&D Committee before becoming chairman of the EEI group of the joint committee with ACRMA on locked rotor currents for room air conditioners. He also served as EEI group chairman of a joint EEI-NEMA-ACRMA-REMA committee on air conditioning and is past chairman of the power group of the Joint AEIC-EEI-NEMA Committee on Motor Starting Currents.

Rate Policies for Adequate Public Service

Robert S. Quig
Assistant Manager, Rate Department, Ebasco Services Incorporated

Excerpts from an address before the 64th Annual Convention of the Canadian Electrical Association, Murray Bay, Que., June 26, 1954

THE common denominator in our utility business, which applies to both sides of the border and to private or public ownership, is the need for adequate earnings. Without adequate earnings, reliable and expanding service cannot be given to the customer; the owner's property cannot be maintained; new capital needed for service growth will not be readily forthcoming; the investor or the general taxpayer will be penalized; and everyone, in the final analysis, will be the loser.

I would like to deal with the matter of rate making on a broad general policy level rather than on the detailed level of rate structure and design. Experience tells us that to adequately price our service to the customer we need not only technical engineering knowledge but also a comprehensive understanding of the economic, social, and political aspects of our business. We deal with people on a mass market basis. Many times our utility service, which is so necessary to our way of life today, has become so commonplace that it is taken for granted. There is little public understanding of the tremendous human effort that goes into providing the service that is available when a customer turns the switch.

Regulatory Background

It is essential that we look briefly at our regulatory background. Some of the most important and controlling doctrines affecting pricing policies originate in this area.

Today, in Canada and the United States, certain provincial and most state governments have commissions with the duty to regulate rates of utilities within their boundaries. Also, many cities regulate at the local level. In the United States, where operations cross state lines and where sales are made for resale, rates, financing, and accounting also fall under the jurisdiction of the Federal Power Commission.

The regulation of local utilities has grown in scope and complexity under the impact of changing economic conditions and concepts of political and social doctrines.

Return Standard Set

The decisions and actions of the commissions are subject to court review and it is in the Supreme Court, which for American utilities is the court of last resort, that some of the more important and far-reaching bench marks of regulatory history have been made.

In 1922, in its famous Bluefield opinion, the Supreme Court said: "A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties."

There is no question but that the standards laid down by the Bluefield Case have received the substantial approval of all agencies and courts. In the more recent Hope Case the U. S. Supreme Court reiterated the position it had taken in its earlier decision; namely, that the return of the utility should be sufficient to maintain it in good financial health.

The broad policy standards for rate making and pricing, given us by the Court, are very clear and understandable. Not only do they make legal sense, but there is a definite recognition of an understanding of economics.

Rate making has been described "not as an exact, scientific procedure, but as a skillful balancing of conflicting objectives, a practical combining of tendencies toward technical complications and an avoidance of undue yielding to the public urge for the simplicity prevailing in other commercial transactions. The results of such balancing will differ with the character of the service and the number of customers involved.

"The successful builder of a rate structure must be primarily a philosopher, rather than a technician."

Prices in the utility field, like other prices, are subject to impacts of economic, political, and social forces. In addition, utility prices are subject to the impact of regulation. Under the existing regulatory standards, you may have a legal right to a fair return. No method of regulation, however, guarantees that fair return, and it is up to you as operators to earn that return. This being so, no rate or price can be set and left alone. Times and forces change rapidly. Public utility rates require careful planning and watchful administration to see that they are reasonable and adequate and thus meet the ever-changing needs of customers and the utility company.

Rate-Making Process Evolutionary

The rate-making process is an evolutionary one. The whole industry and our customers are today the beneficiaries of what yesterday, in many instances, was classed as a revolutionary or untried venture on the part of some of you. This kind of risk-taking in the field of utility rate making must continue if we are to develop to the utmost our technical abilities and our market.

Public utility rates and pricing are the media through which every utility company is brought into the

homes of our customers—yes, into the pocketbook of every household. There is no denying this fact. Neither is it anything to be ashamed of or to be concerned about. Never in the history of human accomplishment have people obtained so much for so little as they do in their utility service. Each of us must see that this continues to be so. Every utility must continue its efforts to make it easy for the customers to do business with it and, at the same time, maintain adequate rates under rapidly changing conditions. This is not because of a selfish corporate interest but because the public need of this most important and necessary service requires it. Our Canadian and American economies have been built on volume production, with constantly improved products and methods. Today's automobile is a better automobile and today's electric service is of a higher quality than we knew some years ago. But the selling price for the automobile is materially higher, whereas, for the most part, the price of electric service is lower.

Inadequate Public Understanding

Statistical comparisons between the operations of the industrial segment of our economy and those of the electric utility industry indicate that "much has been given for a little to many" in the way of electric service. Most of the benefits of the value of the service and the "progress of the art" have been handed to the consuming public. I do not think that there is an adequate public understanding or appreciation of this fact. A continuance of such a trend at the same pace as in the past can only lead to the weakening of the financial fibre of the electric utility industry by the erosion of real capital dedicated to the public use. We need to inform legislators, regulators, businessmen, and our customers of the importance to all of them of a strong utility.

U. S. Secretary of Commerce Sinclair Weeks recently put it very well when he said:

> "In regulating utilities and in managing other things, it is cheaper for the public in the long run to have those that serve it well-fed and strong, rather than half-starved and weak. There are ways of getting good service out of the strong. No one can get it out of the weak."

Many utility managements may feel that, generally speaking, their pricing is in reasonably good shape. They see no cloud on the horizon. This same feeling of complacency also existed with respect to many of our operations which are now but a dim memory. In the utility field we have seen the passing of the inter-urban railway and we are well aware of the plight of most of the transit lines which eke out a precarious existence in the metropolitan areas of Canada and the United States. While many factors are responsible for the business problems of these enterprises, I believe that any list of these factors would include lack of attention to service, failure to plan ahead and anticipate changes, inadequacy of earnings generally, understatement of depreciation expense, and a regulatory climate which, for the most part, felt that the best service that could be given to the general public was to keep the price for that service at a "bare-bones existence" level.

We have neglected getting our story on adequate rates for adequate service across to the most interested party, the customer. We have ridden for a number of years on the slogan, "electricity is cheap." Against the economic and political background of the time, this statement had a very definite place. With the drastic inflation that we have had the past few years, electricity, relatively speaking, is even cheaper, not because of the actual cost to the customer as exemplified by his monthly bill, but because of the insignificant relation that the monthly electric bill bears to all other things that he now buys in an inflated price market. Our slogan probably needs rephrasing. I suggest "electricity is valuable."

Standards of Reliability Imposed

With current-consuming appliances in the home, nightly television entertainment, the refrigeration of food, the heating and cooling of the house, the pumping of water, and the essential operations of the farm, the value to the customer of every additional kilowatthour sold has imposed standards of reliability of service and quality of service undreamed of ten or 15 years ago. All this has cost money. The heavy investment in what is essentially the buttressing of the customer against a possible failure in service continuity has cost the electric utilities millions of dollars, without a commensurate return.

A number of utility managements and their rate people are aware of the changing economic picture. In the United States, the Electric Power Survey Committee, under the chairmanship of Walker L. Cisler of The Detroit Edison Co., has recently made its report. The committee estimates that for 1965, just 11 years from now, the peak-load power requirements will be approximately double those of 1953. Our rate policies must go hand in hand with future system planning and the revenue requirements associated therewith if our electric power responsibilities are to be met effectively and efficiently.

Best Service Not Always Cheapest

At the regulatory level we still find a very cautious attitude, which is the natural outgrowth of a regulatory system having its background in legislative and political circles. If we are to be a strong industry and do our duty to our customers as well as to our investors, rate regulation must recognize the broader aspects of public interest. It must understand that the additional pennies a day which the customer may have to pay will give the utility the necessary elements of financial stability and the capability which are, in the words of the U. S. Supreme Court's Bluefield decision, "necessary for the proper discharge of its public duties."

When one deals with the question of rates, one unavoidably enters the highest levels of corporate policy, since rates not only produce revenues and earnings but also touch on the field of public relations in a powerful and persuasive manner.

A rate containing customer, demand, and energy components may be technically correct from the point of view of one of the many methods of cost allocation. However, if this rate causes annoyance to the customers, difficulties of administration to the company, and does not produce sales growth, you might as well forget all about it.

Naturally, we need to know all we can about our business, the characteristics of our ever-changing loads and their impact on costs. Continuing analyses of these ever-changing costs, both capital and operating, can be a very helpful tool in assisting managements in their policy decisions. The design of rates, however, cannot be based solely on costs. Our pricing problems are not materially different from those of a drug store or a department store selling a multiplicity of goods. There is no question that some of the "leaders" in the store do not earn the same percentage profit as other items. The owners know this and yet they continue such sales policies. Why is this done? Simply because by the sale of the "leader," other lines or items having a higher profit component are also sold and, consequently, over-all the store makes a profit.

Same Problem in Electric Industry

We have this same problem in our utility industry. We suspect, and sometimes know, that a particular service is sold at considerably less than the average return. It does not necessarily follow that we can at all times bring the return from this service up to the average. It is understandable that a situation of less than average return can exist under varying circumstances. We may be trying to develop a certain strata of our market which, with greater volume of sales, will produce a satisfactory return. Also, we may be practical enough to have ascertained that under a higher price level we will price ourselves entirely out of the market, to the ultimate detriment of all our customers.

Obviously, we have no statutory duty imposed upon us to sell a service at a loss. Neither do we have a mandate to exact the same return from all classes of business. A recurring phrase in much of our legislation setting up rate standards is that these rates shall be just and reasonable and not unduly discriminatory. If you will look up the word *unduly* in the dictionary, you will find the meaning to be "beyond a proper degree." Thus our legislative policy makers recognized that our rate structures would have to fit changing and varying conditions if the broad public interest was to be served. If we had been in a position to pick and choose only the more profitable, the more lucrative markets where cost concepts and rate were the controlling factors, we would never have reached the mass market which we possess today, and the electric utility industry would never have reached the size and importance that it has in Canada and the United States. Value of service to the customer, a realistic appraisal of our competitive conditions, and a managerial policy recognizing service responsibilities must also receive consideration along with general knowledge as to costs and their changing nature.

True Purpose of Accounting

I believe you would like to have me speak frankly. As a result of being involved in a number of rate cases in the past ten years, it is my conclusion that in many instances our accounting friends, not by design but because of their intimate knowledge gained in the handling of the figures of the business, are almost on the verge of setting our prices to the public. I do not say that they want this function in addition to the many other problems which lie in their particular field, but I do say that in our pricing policies we have become so involved with figures that we have lost sight of some of the basic economics of pricing. The true purpose of accounting, as I am sure our accounting friends will agree, should be to record the fiscal results of the policies and decisions of management and not to have these figures alone dictate management's policies and decisions.

"Accepted Accounting Principles"

At the regulatory level we have recently encountered many new and novel devices proposed as being in accord with "accepted accounting principles." Among those which may be mentioned are the average rate base (which may be 12 months old or more by the time you are in hearing) instead of the nearest 12 months ending rate base; the omission of cash working capital under the specious thinking that the utility has cash funds available through the accrual of Federal income taxes; the omission of plant costs for construction work in progress because the plant is not yet in service; the normalization of certain expenses (such as sleet storm and hurricane damage expenses) on the grounds that they are nonrecurring items, in spite of the fact that they have a habit of occurring again and again; and various other devices which pinch pennies while the dollars which would insure adequate and economical service to the public go down the proverbial drain. These are being proposed with full knowledge that "rates are made for the future and not for the present."

There are signs that the tide may have turned and that our commissions and courts are beginning to recognize not only the economic facts of life but also that the customer's stake is closely tied to that of the investor.

Under the heading of "economic facts of life" we are confronted today with the matter of economic depreciation. By economic depreciation we mean giving effect in our rates and prices to the expense of property consumed in providing service to the public on a current or present-day cost basis, rather than on the much lower historical cost. We, as rate people, cannot be blind to it in our pricing policies.

Views on Economic Depreciation

This whole matter has been quite thoroughly covered by R. H. MacMillan, Vice President and Comptroller of the New York Telephone Co., in a recent rate proceeding before the New York Public Service Commission. He said, "If the economic depreciation rather than the book depreciation is not taken into account in the price-setting process, then the prices established do not meet the true cost of furnishing service and the business is not sustaining itself. Please note that economic depreciation as I have measured it does not require consideration of the ultimate replacement of the pole being depreciated. Fundamentally, the purpose of depreciation is not to provide for replacement but to provide for an equitable distribution of cost. Neither does economic depreciation, as I have measured it, call for a guess or estimate of future changes in the price level. It deals only with current levels, for the purpose of measuring one element of cost in dollars

of the same size as the revenue dollars required to meet that cost."

Finally, he stated that "If rate making is based on book depreciation without allowance for the additional cost of economic depreciation, the result is that the subscriber pays less than the full cost of furnishing service to him."

As to the rate-of-return element of our rate-making process, the picture is confused. By and large, not too many utilities have been able to get above the six to six and one-half per cent figure for electric operations. Reasonably satisfactory levels of operating income have been achieved in a number of "fair-value" jurisdictions because of a more realistic adjustment of the rate base rather than because of any fair appraisal of the rate-of-return problem.

Cost-of-Money Theorists Persist

I am sorry to say that the proponents of the cost-of-money theory are still with us. While their influence may appear to be less, as a practical matter their theories still persist. These short-sighted theorists say, in effect, that as long as capital can be attracted no harm is done to the enterprise. This overlooks entirely the fact that any enterprise is in a position to attract capital at a price, but at what cost to its existing security holders and to its customers' future is never spelled out.

Regulation Not a Substitute for Competition

It has been said that regulation is a substitute for competition in the public service field. Although competition may control the level of gross revenues, utility regulation, as it has been practiced, controls the level of net income. Thus, the similarity between the two is more apparent than real. If regulation were a true substitute for competition, electric utility rates would be set at the level of reasonableness to the consumer rather than at some arbitrary level which will just attract the new investor.

The manufacturing industry, operating as it does in a free competitive economy, has been able to increase its dividends and earnings to a far greater extent than the decline in the value of the dollar. The same is not true of the electric industry. Our pricing policies for the future must recognize that to raise the money needed for our future plant growth the utilities will be in competition with other seekers of capital.

Much of the electric service is underpriced when related to the true value to the customer. Yet, regulation is aimed at the point of restricting corporate net income rather than at the adequacy of revenues with due regard for the real service rendered to customers.

Electricity as Item on Budget

The service that we sell is one of the smallest costs in our customers' budgets. The household user paid only one per cent of his disposable personal income for electricity in 1953, as compared with 1.2 per cent in 1939. The manufacturer spent only .6 of one per cent of the cost of his finished product for electricity in 1953, as compared with 1.4 per cent in 1939.

While the price of electric energy amounts to a very small percentage of the total cost of the product of manufacturing, except in the electrochemical and electro-metallurgical processes, revenues from industrial service form a substantial portion of the total revenues of the electric utility industry in Canada and the United States.

In the main, the prices for our service for industrial power were set during a period when there was ample capacity to sell and competition of the independent industrial power plant was severe and unremitting. All this is changed today except the price we are obtaining for our industrial power sales. Here and there some minor adjustments have been made. Those utilities with steam generation have usually been successful in obtaining fuel-adjustment clauses. On the other hand, manufacturing profits have gone up materially. Private industrial power plant competition has receded into the background and understandably so. Why should private manufacturing industry put 1954 inflated dollars into power-plant investment to generate electricity when they can buy that service from you at rate levels predicated for the most part upon much lower historical costs? In light of the drastic economic changes that have occurred, this situation calls for a reappraisal of the pricing for this class of business.

We have just had conclusive evidence that if economic facts are presented adequately and firmly to a regulatory commission, the results can be encouraging. On April 14, 1954, the Federal Power Commission, in a natural-gas pipeline case, for the first time faced squarely the economic facts of life on the issue of whether gas produced from the company's own production facilities should be priced at the "fair field price," which would give it in the neighborhood of 8¢ per Mcf, or whether it should be priced under the original cost-depreciated accounting concept whereby the company would receive 8/10¢ per Mcf for its gas.

FPC's Opinion

The Federal Power Commission, in its opinion, stated, "In arguing strenuously that we should follow its rate-base approach in pricing the gas which Panhandle produces, the Staff gives but scant attention to the economic aspects of the question or to the long-run economic consequences of the course which it advocates. Rather, it (the Staff) seems to stand primarily on the fact that this has been the Commission's long-established policy, which has been sanctioned by the courts, including the Supreme Court of the United States. That such has been the Commission's practice is not disputed, although it may be pointed out that here for the first time we have before us in a rate case a complete record which fully sets forth the results of the two methods of gas pricing now at issue. To urge this as an adequate reason to continue the practice in the face of what is to us a convincing showing that it should be abandoned, however, approaches the contention that the doctrines of *stare decisis* or *res adjudicata* have application in the field of administrative rate making. But this is far from being the case."

FPC opinion concluded, "For all the foregoing reasons, we have concluded that, as a matter of sound public policy, we should re-examine at this time the treatment which the Commission has heretofore accorded

(*Continued on page* 361)

Selling Electric Service, 1879–1954

William E. Clement

New Orleans Public Service Incorporated

This is the third and final installment of the BULLETIN'S *serialization of "Selling Electric Service, 1879-1954." Written by W. E. Clement as a contribution to Light's Diamond Jubilee, it was published as a 72-page booklet sponsored by the Electrical Association of New Orleans.*

IN previous paragraphs I have described the efforts made before World War I towards dealer-utility introduction and development of electric service and appliances. Generally speaking these same measures continued in effect up to about 1917. It was not long, however, before the New Orleans Railway & Light Co. found itself in serious financial difficulties due in large measure to increases in war-induced operating costs. The company, being unable to proportionately increase its charges for electric service, gas, and transportation to compensate for greatly increased costs for fuel, supplies, and labor, was forced into a receivership in 1919 to protect the interests of owners and customers alike.

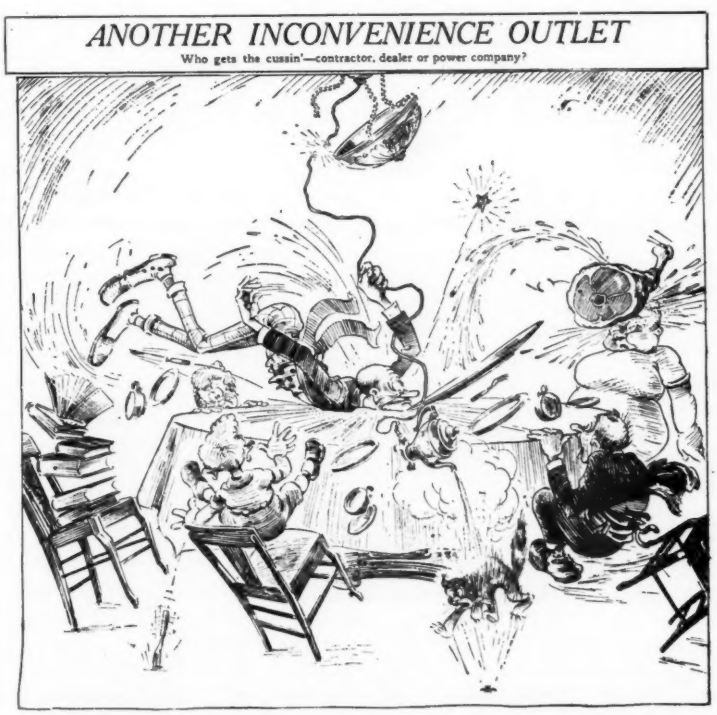
The "better day," following War I, came with the large-scale utility reorganization and refinancing which, started in 1922, resulted in creating a new company, New Orleans Public Service Inc., shortly thereafter. The management of the new company was sales and development minded to a great degree, and the Commercial Department soon found itself receiving the backing for a strong dealer-utility expansional effort.

The big post-War I surge forward (with much resultant "electrical living" for our people) came about through accelerated development of domestic electric-refrigeration equipment, radios, comfort cooling attic and window fans, better lighting, and so on. The dealer-utility joint effort which, often under severe difficulties and sometimes financial loss to the participants, introduced and promoted the sale and use of these revolutionary devices, and the strenuous promotional work which took place during the Twenties and Thirties forms an interesting chapter in electrical history.

Electrical Refrigeration

Being desirous of keeping in step with this big development, our first experiment in the sale of domestic refrigeration was through cooperation of one of the great electrical manufacturers, the placing in our show-room of an Audiffren-Singren family-size refrigerating machine. This European developed equipment, complete with its old-time, ice-box type, wooden refrigerator (separate from the compressor or mechanical part) was water-cooled, making plumbing connection necessary. While the compressor assembly and refrigerator box of the Audiffren machine, the first operating, residence type, refrigerator shown in our section, elicited considerable interest, no sales were made by us. Even so, the display of this refrigeration machine aroused much local interest. American inventors and manufacturers at about that time—so it seemed—set earnestly to work to develop domestic and small capacity commercial refrigerators.

This queer looking motor-driven assembly furnished cooling for the first residential type electric refrigerator box displayed in the New Orleans



As far back as 1920 and earlier, electrical industry advertisements similar to this one stressed the importance of more convenience outlets. Mr. Clement recalls that if difficult selling problems could have stopped the electrical industry permanently, the gas mantle would not be a museum piece today.

Railway and Light Co. (now Public Service) show-room. It produced, as was said at the time, a certain amount of refrigeration from "two tin cans and a piece of pipe." This ruggedly built, dumbbell in appearance, machine was devised by Abbe Audiffren, a French monk and teacher of physics.

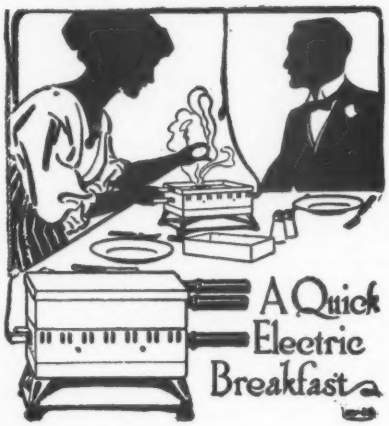
The spheres rotated with the shaft. One sphere held the liquid refrigerant and was the evaporator. The other sphere contained the compressor. The wooden icebox, refrigerated from the Audiffren cooling-unit side, stood alongside and did its work quite satisfactorily. None were sold by us, however, as the over-all price of about $1,000 plus the newness and (locally) untried features of such residential refrigeration equipment seemed to militate strongly against sales.

We next displayed and helped in introducing several other new types of home refrigeration equipment as they came on the early market. All of these, however, were necessarily high priced and required both electric (or gas) and water-cooling connections, the latter a troublesome and expensive "accessory part" of the equipment.

Air-Cooled Refrigeration

The development of air-cooled refrigerator compressor units brought, comparatively speaking, greater and more promising success in the promotion of domestic mechanical electrical refrigeration. Even so, these assemblies of the Twenties were a far cry from the beautiful electric and commercial refrigeration units that the dealers now so proudly display in their showrooms. There were many draw-backs in the early days of electrical refrigeration which had to be overcome.

The refrigeration compressor units for use in the home, though now air-cooled and thus simpler and more dependable, sold in 1924 at an average price of about $250 to $350 each. This price did not include the necessarily well-insulated wooden refrigerator box then generally used. The complete price, installed, amounted to a figure around $500. Often more. The compressor part of the unit was placed in the basement, or if there was no basement, under the house in a "wire-caged" enclosure. The cooling or "brine-tank" refrigeration producing unit, with its ice trays, was, of course, placed upstairs in the ice-



Electric "table appliances" were first produced in important volume in the mid-1920's.

compartment of the icebox, with flexible tubing leading up from the compressor below.

The operating unit in the basement consisted of an electric motor, a belt-driven compressor, and a condenser wrapped in coils around the rest of the machinery.

In 1924 there were less than 50 of these electric home refrigerator installations in New Orleans, including the older water-cooled units. But some of us were optimists, as salesmen usually are, and saw dimly the vision of what was to come. We thought the time was ripe to shoot the works with aggressive methods to show and sell the new refrigeration equipment as well as other recently produced electrical appliances. So, a second and specially well-placed "House Electric" was planned. The cooperation of the Electrical League, an organization which had succeeded the Jovian Order and which comprised all branches of the electrical industry, was secured and arrangements completed to put on this educational exhibit in the League's name in an attractive new home on Napoleon Avenue.

In a spirit of fine cooperation department and furniture stores loaned the home furnishings. A most interesting and complete exhibit was quickly gotten together. The house was conspicuously advertised in newspapers and also by attention-gathering, nightly floodlighting of the premises. As in other cities doing this promotional educational work, capacity crowds visited the home each afternoon and night over a period of a week. The newest invention—a beautiful home-type air-cooled electric refrigerator in actual operation—was the principal drawing card. However, there were many other appliances that appealed to the housewife and, in fact, to all members of the family.

After the "House Electric" closed, the domestic refrigeration equipment which during the big week had performed so successfully was purchased and moved to the nearby home of New Orleans Public Service Inc.'s Commercial Manager, this writer, for test, close observation, and use. There it proved to be an even more invaluable part of better living than this buyer at first thought. But what would a purchaser of today think if he were told that in order to get the best results, and avoid the possibility of the equipment becoming noisy in operation, the following routine was a desirable procedure?

Once a week the compressor in the basement had to be checked, grease put in a cup on the "idler," the belt tightened to avoid slipping, and the motor oiled. However, fine, smooth operation was the reward obtained over a period of succeeding years. Still later, at a small cost, the motor was replaced with a larger size and the old driving wheel changed, doing away with the troublesome idler by providing a V-belt as used so extensively today. After that, checks were periodic every two or three months instead of weekly.

Refrigeration Agency Obtained

Following the early demonstration of the advantages of refrigeration in the home, and the appearance of self-contained boxes of steel construction with porcelain panels, New Orleans Public Service Inc. obtained a refrigerator agency and began to sell one of the several types of boxes. At the time, company officials expressed to the manufacturers their misgivings as to whether that particular type of metal construction would hold up in the high humidity prevalent in cities near the Southern Seaboard. They were right, and before a year had passed it became necessary for the manufacturers to either rebuild or replace practically all of the new boxes sold in this area. This was not an isolated case, as a rust condition in other cities troubled other manufacturers and utility companies as well.

The local distributors, at first, could only operate through specialty dealers, as the department stores, very wisely, would have none of it until the experimental stage was passed. Some dealers lost money during the early years, and prospects for promotion in the home and commercial refrigeration line for a while looked a bit dubious. In spite of all difficulties the manufacturers never lost confidence, and many New Orleans Public Service Inc. executive or department heads bought electric or gas refrigerators of some make for their homes.

The taking on of a refrigeration agency and the early promotion of this new service made it necessary for the power company to organize a refrigeration service department to look after installations, service, and repairs. The service department, under conditions which prevailed in the Twenties, sometimes operated at a loss. Without assurance of an overall merchandising profit, the business, therefore, was not yet ready for any considerable participation by the dealers. But as the mass market commenced to be tapped and costs were brought down by the manufacturers, dealers (as we have said, "specialty" concerns at first) started to prosper and become extremely active in the field.

Refrigerators Introduced

Those manufacturers, specialty men, and others who worked so hard to introduce radios to the nation in the early Twenties are entitled to much credit for their untiring effort in this direction. The first sets were battery operated and crude indeed as compared to what we have now. It was not until later in the decade that transformers to supply energy from the house service, doing away with the "A and B" batteries, appeared. From that time on, and as mass production brought the early price of $200 or $300 per set down to a popular figure, radio commenced to go to town.

Power company participation in gaining consumer acceptance for radio was particularly helpful in the fields of promotion and advertising, assisting dealers and distributors of this class of merchandise to develop sales. Needless to say, the industry as a whole gave continuing cooperation through the promotional work of the various Electrical Leagues.

During 1929, it was discovered that radio vacuum tubes could be used for other and manifold purposes even extending to such applications as furnace-temperature control and the automatic leveling of elevators. In entertainment the talking picture usurped the silent movies. City dwellers will remember this period for the surcease it brought from noise as a result of the general use of electric welding in building construction. Thus the Twenties sped the day of the great new "electric age" as foretold years ago by the sage, Thomas A. Edison.

Light's Golden Jubilee

In 1929 there was a world-wide celebration of Light's Golden Jubilee, the 50th anniversary of Edison's invention of the carbon incandescent lamp. It was said at that time, as we now say at the Diamond Jubilee Celebration, that this lamp was "one of the greatest contributions to scientific achievement and public welfare the world has ever known." As the New York *Herald's* head-line announcement of Sunday, December 21, 1879, said, "It Makes a Light Without Gas or Flame." Light's Golden Jubilee, 50 years later and in honor of Edison's achievement, was one of the biggest tributes ever paid to one man.

As in cities throughout the nation, New Orleans—in addition to much other publicity — celebrated this Golden Jubilee Week of 1929 with a colorful and special illumination of one of our municipal parks, Lafayette Square. The display brought thousands of visitors nightly to that central beauty spot. A specially installed electric fountain and an illuminated waterfall, the upper and lower floodlighting of the three statutes in the park, together with the lighting by hidden means of lovely flower beds and beautiful trees, all produced an entrancing and colorful effect which is difficult to describe.

Each evening a band seated on the City Hall portico, adjacent to and overlooking the scene of attraction, entertained with a special concert. That Grecian-columned masterpiece, the New Orleans City Hall, was, of course, outlined heavily in lights. According to editorials in the newspapers, the square was a "Fairy Land of Beauty."

The success of the celebration was due in great part to the enthusiasm of the utility company's young lighting engineers, who without regard to hours, labored for weeks in advance to make the occasion a success. The dealers and manufacturers contributed generously and very kindly loaned the lighting equipment used in this big civic demonstration. Without their help the job could not have been done.

The decade known as the Twenties, was outstanding for having witnessed a modernization and building boom in New Orleans as in other sections of

the country. That era saw an outstanding change in many skylines, the construction of many great new bank buildings, office buildings, department stores, theatres, and factories. This construction period came to a halt with the onset of the economic depression of 1930-1935.

Decade of the Thirties

The revolution in living conditions that came with the introduction of the electric refrigerator was well under way in 1930, and it was in June of that year this writer attended a meeting in San Francisco of commercial sales executives where it was decided that the time was ripe for an intensive national campaign of promotional education covering advantages of electric refrigeration in the home. As is always the case, there were some present who doubted the advisability of entering upon such a big nation-wide promotion. However, an advertising and publicity drive was started the next year which was no mere flash in the pan. In fact it turned out to be a result-getting effort of very great proportions.

Wholehearted cooperation of manufacturers and nationwide utility educational work, together with the work done by distributors and dealers, made the public electric refrigerator conscious and increased the sales of these units enormously. A result was a very substantial improvement in the load factor of the public utility companies. As matters now stand, Edwin Vennard, President of the Middle West Service Corp., said recently that "raising the load factor from 60 per cent to 70 per cent in an average company equals 1 mill per kilowatthour reduction in cost."

As an indication of the interest the local utility company took in this national campaign, Louisiana, with every state in the union participating, won the third prize in the contest for the most active leadership. It was the writer's good fortune to have been named Refrigeration Promotional Chairman for the State of Louisiana. Being designated recipient of the prize, he received the original of one of the beautiful "Electric Refrigeration in the Home" paintings reproduced a few months before in the *Saturday Evening Post*. (There were four or five of these paintings done by a celebrated national artist.) The prize, a painting of beauty and artistic merit, has not been relegated to the attic, but hangs in the writer's living room, a much cherished memento of the big contest.

Many young people of today do not know, or have any conception of the fact, that only 25 or 30 years ago the universal food preservation practice of the American home was to—at great inconvenience to all—get ice from ponderous ice wagons and keep it in iceboxes or refrigerators that were inadequate and troublesome.

While the manufacture and delivery of ice still has an honored place in our economy, it is interesting to review the giant strides made by the determined-to-succeed refrigerator manufacturers in changing the living habits of the country. Here again we have a revolutionary departure, the delivery of motivating energy directly to the point of use, this time the house (or commercial establishment) refrigerator, freezer, or icebox.

Practically all of this great change has come in the past 25 or 30 years, and as they open and close the doors of this home comfort device, few stop to visualize the newly gained advantages of controlled refrigeration coming in silently over the wires. It must be emphasized that this great boon, this beautiful and economical electrical refrigerator service, did not—as we have shown—just happen. As I have endeavored to tell again and again, the "new look" in refrigeration is a typical case of determined and unswerving selling effort, with faithful cooperation on the part of "every bloomin' soul" in the electrical industry.

Sales Levelled Off

Reference to statistics on sales and revenues shows that during 1930-35, in the depths of the depression, the consumption of electricity for the first time did not increase. In the decades before there had always been a doubling over the previous decade. As new building and industrial expansion in the Thirties was almost nonexistent, the utilities and their sales allies turned to an intensive development of the residential and home-comfort market. In addition to refrigeration in the home, which had begun to assume strong potentialities for merchandising and better living, a program was inaugurated to promote the service known as "Comfort Cooling Through Attic—or Window Fan—Ventilation."

Quite a bit of pioneering had previously been done on attic ventilation; at first the object was the removal through use of a high capacity ventilating fan at one end of the attic of the "blanketed," high-temperature air in the attic. Soon, however, a structure called, for lack of a better name, a "dog-house," housing a powerful ventilating fan, was placed over a large central grill through which warm air from the rooms below was drawn and forced through vents to the outside. This method of cooling a residence made good headway, and today a large number of new homes built in our section are equipped with this form of comfort cooling.

Cooling Experimentation

It was the writer's privilege, however, to apply himself in the early Thirties toward developing the mass market in New Orleans for devices to cool old houses. With the help of a local manufacturer, we first experimented with two ordinary kitchen exhaust fans bolted together and equipped with an adjustable arrangement to make it fit any size window. This assembly, a portable one, put "comfort cooling through window ventilation" on a low-cost plane, where it could be made available to renters in small homes and apartments. The immediate response to the innovation showed that there was a very real demand for such a cooling service. This first equipment was faulty to the extent that it was not powerful enough to do the job except in a limited way.

About the time that failure with this "big idea" seemed threatening, someone (it may have been several manufacturers approaching the same problem at the same time) commenced to produce belted, slow-speed, large capacity, window fans, excellent devices that now have become a necessary part of so many southern homes. By the latter part of the Thirties the demand for this home equipment was going great guns, only to be interrupted by a supply stoppage, due to need for critical war material.

I mention the development of window-fan cooling as showing the adaptability of the electrical industry to new ideas in the face of difficulties which at times have caused a halt in the advance of many an older indus-

try. Anyone who knows what has happened in the belted-window-fan field since the Thirties, and the big market it opened, will, I believe, applaud the work of the pioneers in their efforts to create a design for better living.

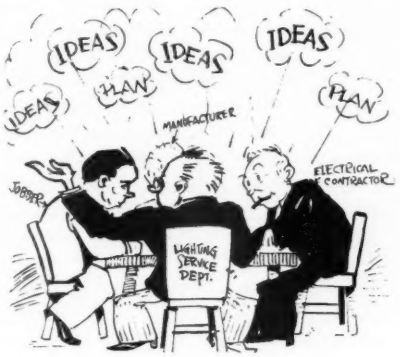
With expansion in manufacturing, erection of new buildings, and general construction stymied, utility companies, manufacturers, and dealers in the Thirties fell back on the big job of making the best of the situation. The relighting of factories, stores, offices, and residences in accordance with modern standards was an important goal of sales activity. The home service field was taken care of through the organization of well-staffed residential sales divisions. As a part of this amplification of the work of the many utility sales departments, there have been developed thousands of specially trained young women, who cooperate with dealers in home service work.

Relighting of Interiors

Relighting of interiors, large and small, had by this time assumed an important part in many company activities. The dealers and the specialty agents, cooperating very wholeheartedly in developing this new market, were, of course, an essential part of the effort. One of the good things which developed in New Orleans as the result of this reorientation of sales strategy was the organization of a strong Industrial and Commercial Sales Division, something way ahead of the rather inadequate force of earlier days.

Taken as a whole the modernized sales divisions of most of the larger utility companies commenced to include a number of trained engineering specialists. The advisory assistance which these experts gave helped the sales forces to create business during the years of depression. Just as the former empirical methods of discovery and progress in the old-time inventive laboratory have been supplanted by present-day systematic and scientific research methods, so has this new technique been applied in the field of electrical sales development. In this connection, the most important phases of the sales work of a modern utility is that conducted by its research division.

While similar councils were developed in most of our larger cities, a really shining example of this was that of Cleveland, Ohio. The group, composed of prominent business and professional men and women, leaders of welfare organizations, and civic clubs, dedicated itself to the task of educating the public in the proper use of their eyes. According to press reports, in Cleveland, in 1934, speakers addressed 517 organizations comprising 139,498 persons, sponsored 734 newspaper articles, 356 of which were illustrated, and conducted over the radio 14 sight saving programs. A Sight Saving Day designated by the organization resulted in 986 persons visiting hospitals for consultation and examination of their eyes.



Conforming with this national movement, a Sight Saving Council was developed in New Orleans with E. N. Avegno of the power company as President, at a meeting on September 16, 1935, at the Roosevelt Hotel. As in Cleveland, this effort was strongly and enthusiastically backed by leading organizations of the city including the doctor in charge of the Eye, Ear, Nose, and Throat Hospital, also top representatives of city schools, etc. Plans were drawn up covering a Speakers Bureau, Program, Finance, and Publicity Committees, all of which soon became an active force for good in the community.

The fluorescent lamp first commercially appeared in 1938 and has already shown considerable improvement in its efficiency after solution of the poor power factor problem, and the price has been lowered many times in the years since its introduction.

The combination of increased efficiency in the lamps, reduction in the price, and reduction in the price of current has resulted in giving the incandescent lighting user about 70 times as much light today as he obtained in 1882 for an equal amount of money. In other words, the cost of electric light today is less than 1½ per cent of the cost for an equivalent amount of light in 1882.

Lighting alone now is said to consume as much electricity as the nation's utilities were selling for all purposes 15 years ago. Such are the potentialities in this branch of the cooperative endeavor that Walter H. Sammis, former President, Edison Electric Institute, declared recently that lighting demands are expected to double in the next ten years. Lighting is to be emphasized all through 1954 as a part of Light's Diamond Jubilee, meaning that the Better Light Better Sight Committee has before it a particularly important assignment.

Intensive Effort by All Concerned Brought This Result to U. S. Investor Financed Utilities

Net Output in Generation of Electricity, after Station Use, Kilowatthours in Billions*

1902	2.3	Billions
1912	11.0	"
1922	41.6	"
1932	74.5	"
1942	158.1	"
1952	322.1	"

* Figures taken from: Edison Electric Institute "Pocketbook of Electric Industry Statistics," 1953 edition.

Leagues and Associations

In practically all of our larger cities these cooperative industry organizations have grown and gained influence, starting about 30 years ago. Quoting from an address by C. C. Simpson, Managing Director, Electric Association, Chicago, it was said that "Some years ago, a group of European businessmen visited our country for the purpose of ascertaining the reason for our nation's tremendous business growth. Upon returning home, they reported in part that America's business growth was largely the result of the cooperative effort expanded throughout many community and industrial associations." While we may take a bow on that compliment, it should also cause us to better appreciate the importance of two words, "interdependence" and "unity."

"Interdependence," it is said, is a powerful word, especially to the elec-

trical industry. No one segment can, or even tries, to perform the services of another. The utilities, manufacturers, distributors, electrical contractors, dealers, service institutions, and others each have a separate and distinct job to perform. If any one segment fails in its job, it deters the success of the others. Each is interdependent upon the other. "Doesn't it follow," said Simpson, "that we need unity between these segments, to the end that we can operate our industry as nearly as is possible as one great force and thus be better able to compete with other great industries? And finally, doesn't it follow that we need a strong Electric Association to serve as the means to make the interdependence and unity idea work?"

Unity and Independence

For information of our readers, it might be well to stress the steady growth in numbers as well as the concept of the unity and interdependence movement as accomplished by the electrical leagues and associations banded together in the International Association of Electrical Leagues, with headquarters at 155 East 44th Street, New York 17, New York.

All of these IAEL member organizations maintain close contact with New York headquarters obtaining advisory service and help from the closely tied-in National Adequate Wiring Bureau. Annual conventions or conferences are held, at which time speakers are heard, discussion takes place, business is transacted, and officers elected. As one who has attended several of these conference meetings, this writer can testify to programs of outstanding worth plus what seems to be a somewhat different-from-ordinary brand of new inspiration. Nowhere have we seen a finer cooperative spirit manifested. Many Leagues and Associations issue monthly "News Bulletins," and an exchange of these publications is a helpful feature of IAEL membership.

A Necessary Work

The Electrical Association of New Orleans has accomplished much since its organization in 1921 as the Electrical League. Since that time the League, and later its successor, The Association, has grown stronger each year. The objective as outlined in the constitution is to "promote the advancement of the professional, commercial, and social interests of its members, the furtherance of the use of electricity, the greater development of the electrical industry, and to be of service to the public."

Seventeen years ago our Electrical Association and others that we know of began the issuance of Fifty-Year Golden Anniversary Certificates. These honor awards are given to those who have completed 50 years of service and have been certified by a specially organized committee as "Pioneers of the Electrical Industry." The list of those qualified in New Orleans during past years includes manufacturers' representatives, wholesalers, contractors, dealers, utility men, and educators. Service lists are kept on file and as these Pioneers qualify they receive the certificate.

A Pioneer dinner is given each year, and on this big occasion all pioneer recipients of certificates are invited as special guests. The presentation of the golden anniversary certificate is made by the President of the Electrical Association. This award procedure is a continuing process, and all of those who qualify and remain in the industry are assured of special recognition and golden anniversary honors from their fellow workers.

Cooperation for Progress

In connection with the 1954 Edison Electric Institute Sales Conference, sales training and market development were put forward as major activities to be stressed during the coming year. Much attention is expected to be given to the human aspects that are said to "set selling and salesmanship apart from any other occupation."

The 20th Annual Sales Conference, held at the Edgewater Beach Hotel, Chicago, in April, came at a time when more and more attention was being given to selling. With the day of the "order-taker" salesman past, the sales executives of the nation are generally agreed that they are faced with the problem of developing new markets, as well as personnel who can sell under highly competitive conditions.

With this in mind the Commercial Division, under direction of its chairman, arranged an exceptionally strong conference program designed to provide assistance to electric industry sales executives in their current commercial operations.

It is felt certain, also, that additional sales inspiration will result from the nationwide attention now being centered on Light's Diamond Jubilee Celebration; something that will have increasing effect as the celebration rises to its climax in October.

With electrical industry generating capacity being greatly increased by the end of 1954, now is the time to assess the industry's vast potential for future expansion, as well as the tremendous impact electrical progress has already made on American life and economy. Planning for the last quarter of the industry's first 100 years is being emphasized in current discussions and in connection with utility area development work. Of this latter branch of power company activities—in co-operation with other groups—several chapters could well be written if space were available and time would permit.

EEI Commercial Division

Those of us, who like this writer, not only recall the modest Commercial Division beginnings, but took an active part in old-time national sales activities, cannot help being impressed by the present-day high degree of sales specialization and service-to-the-industry efforts which are now, what might be called, universal practice. The chairman, according to the latest chart, has five sectional heads working directly under him; Commercial Sales, Farm, Residential, Industrial Power & Heating, and also a Special Service Section. Many specialized sales problems have been turned over to the 19 committees and their hard-working committeemen numbering over 300. Among things now being intensively and painstakingly developed—to meet the present situation—are new sales aids; together with market development studies and training material designed to assist the commercial forces of the industry, including, of course, the dealer-sales allies, those who might request such help.

It is being said that historically (and for sound economic reasons which still have much weight) the electrical industry as a whole has looked to the utilities to provide local integration and leadership. Some

now argue, however, that the trend is for users of electricity to go "direct to the electrical contractor or distributor for advice, thus creating new responsibilities for these groups." Anyone who is informed as to the huge industrial, commercial, and residential "modernization" program now being spearheaded by the National Electrical Contractors Association will readily agree that a great "surge forward" in selling technique and national advertising efforts is taking place in several allied groups. Here is something which holds great hope for the future.

Keeping in mind the above reference to changed conditions and the need for sales leadership combining present-day opportunity with that dynamic impetus which—in an amazingly short time—brought the electrification revolution we see today, there is little doubt but that the market development activity set in motion at Chicago will develop into a let's-go-forward movement of great consequence.

This year millions of people who flick a light switch as naturally and unconsciously as they breathe will, through the Diamond Jubilee Celebration, be reminded that there was once a man named Thomas Alva Edison and that on October 21, 1879, as the result of an "idea," he took the most important single step toward bringing a world out of darkness into light.

Edison's Last Public Message

Mr. Edison's last public utterance, made on June 11, 1931, at a time of depression blues, was contained in a highly significant message to the electrical utility industry then in convention in Atlantic City, N. J.

"I appreciate your greetings. My message to you is to be courageous. I have lived a long time, I have seen history repeat itself again and again. I have seen many depressions in business. Always America has come out stronger and more prosperous. Be brave as your fathers before you. Have faith. Go forward."

Rate Policies for Adequate Public Service

(*Continued from page* 354)

pipeline-produced gas in rate making. We are convinced from our analysis of all the facts of record, that the ultimate public interest will be better served by permitting the pipeline to receive for the gas which it produces a price reflecting the weighted average arm's-length payments for identical natural gas in the fields (and sometimes from the very same wells) where it is produced than through the application of the 'rate-base' method to this commodity. We find that the uncontradicted evidence introduced by Panhandle in this proceeding represents a reasonable basis for such pricing."

The FPC best described the entire rate-making process when it quoted Mr. Justice Frankfurter, speaking for the U. S. Supreme Court on another rate case, "The process of rate making is essentially empiric. The stuff of the process is fluid and changing—the resultant of factors which must be valued as well as weighted."

As a result of the long years of a war economy and its necessary regulatory atmosphere, we have come to accept all too complacently the ever-increasing impact of regulation upon the responsibilities of management in the field of rates. One reason for this is the fact that a substantial number of our people (customers and employees) have lived their adult lives under an atmosphere of intense governmental regulation. That a public utility should be reasonably regulated no one will deny, but, as the U. S. Supreme Court said in 1923 in the Southwestern Bell Telephone case, "It must never be forgotten that while the state may regulate, with a view to enforcing reasonable rates and charges, it is not the owner of the property of public utility companies, and is not clothed with the general power of management incident to ownership."

In other words, the rights of management cannot be arbitrarily abrogated. They can only be surrendered through a lack of understanding and conviction in a cause which I believe to be in the ultimate public interest.

The long history of regulation in Canada and the United States has reflected the changes that have taken place in our political and economic climate. The last 20 years have witnessed many instances of the decline and fall of regulation under law which recognized property rights and long-term customer interests. Too often there has been substituted for this a doctrine of regulation usually more social than economic and of quasi-legal expediency.

Looking down the road, there is a big job to be done. Future rate policies for adequate public service must consider that:

1. Peak-load requirements will more than double within ten years.
2. Management, materials, and money will be needed in ever-increasing amounts.
3. Maximum responsibility will be placed upon management to provide the utility service so necessary to our way of life.
4. Employees will have to be better educated and organized for the job to be done.
5. Customers will have to be better informed as to the value of the service.
6. Regulators will have to review and revise those regulatory standards and interpretations that will be detrimental to a broader concept of adequate public service.

There is a challenge to be met in your future pricing plans. By boldly meeting this challenge you will bring to the public the best service at a reasonable price.

Electric Utility Service Rules Still Available

A LIMITED number of copies of *Electric Utility Service Rules*, a book compiled by the AEIC Committee on Metering and Service Methods and the EEI Meter and Service Committee, are still available. This volume, issued in October of 1953, was prepared to assist engineers in the preparation of electric service requirement guide books for their individual companies. It consists entirely of excerpts from 44 service-requirement booklets, representing a variety of companies, indexed and correlated for easy reference.

Prices are $3.00 per copy to EEI and AEIC members and $5.00 to non-members. Address orders to EEI.

The Credit Picture

Results of Survey Conducted under Joint Supervision of the Credit and Collection Committees, EEI Accounting Division and AGA Accounting Section

THE Credit Picture for the first six months of 1954 is based on reports received from 81 utilities. The information furnished by these utilities indicates that, over-all, collections were more difficult in the first six months of 1954 than they were during the comparable period of 1953. This situation is reflected principally in the service disconnections for non-payment and the number and amount of accounts charged off items covered by the Credit Picture questionnaire.

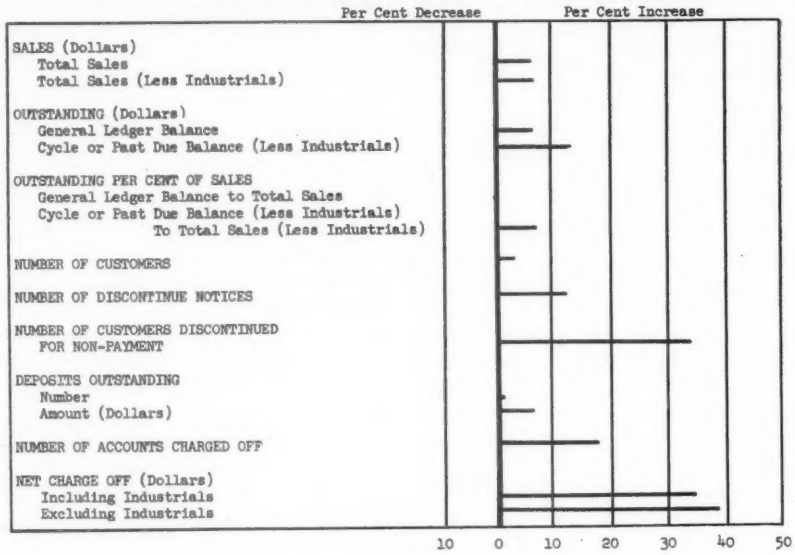
Of the 67 utilities which furnished statistics on service disconnections, all but six reported an increase in the number of services disconnected for non-payment. The average percentage of increase for all of the utilities, as shown in the accompanying table, was 33.9 per cent.

The average percentage increase in dollar volume of net charge-offs, including industrials, was 34.3 per cent for the United States total, as based on reports of 76 companies. Except for the East South Central states, this percentage was fairly representative of all sections of the country.

Despite the increase in the dollar volume of charge-offs, losses are still nominal. For the first six months of 1954 they represented .18 per cent of sales (based on the 76 utilities reporting on this item). This compares with .09 per cent in 1948 when collection of data for the Credit Picture was started. The increase to the current figure of .18 per cent has been gradual.

A total of 41 utilities reported the dollar volume of net charge-offs excluding industrials as well as the net charge-offs including industrials. An analysis of these reports shows a smattering of industrial charge-offs, the largest reported being some $4000. Thirty of these 41 utilities reported that they did not have any industrial losses. The total industrial charge-offs of the 11 who reported such losses was some $25,000.

CREDIT AND COLLECTION EXPERIENCE OF U. S. ELECTRIC AND GAS INDUSTRIES
January 1, 1954-June 30, 1954, compared with same period for 1953


Per Cent Decrease
Per Cent Increase
SALES (Dollars)
Total Sales
Total Sales (Less Industrials)
OUTSTANDING (Dollars)
General Ledger Balance
Cycle or Past Due Balance (Less Industrials)
OUTSTANDING PER CENT OF SALES
General Ledger Balance to Total Sales
Cycle or Past Due Balance (Less Industrials) To Total Sales (Less Industrials)
NUMBER OF CUSTOMERS
NUMBER OF DISCONTINUE NOTICES
NUMBER OF CUSTOMERS DISCONTINUED FOR NON-PAYMENT
DEPOSITS OUTSTANDING
Number
Amount (Dollars)
NUMBER OF ACCOUNTS CHARGED OFF
NET CHARGE OFF (Dollars)
Including Industrials
Excluding Industrials
10 0 10 20 30 40 50

REFLECTION OF THE CREDIT AND COLLECTION EXPERIENCE OF UNITED STATES ELECTRIC AND GAS UTILITIES—JANUARY 1, 1954, TO JUNE 30, 1954

Per Cent—Increase or Decrease over Corresponding Period—1953

	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain States	Pacific States	United States Total
Sales in Dollars:										
Total Sales	+ 6.0	+ 5.3	+ 6.9	+ 8.3	+10.0	+ 9.1	+ 6.3	+ 7.8	+ 5.1	+ 6.7
Total Sales Excluding Industrials	+ 8.2	+ 9.3	+ 4.5	+ 7.1	+10.4	+11.3	+ 7.1	+ 9.4	+ 5.5	+ 6.8
Outstanding in Dollars:										
General Ledger Balance	+ 5.5	+ 7.3	+ 7.7	+ 6.0	+ 9.4	− 1.4	+ 2.1	+ 8.3	+ 2.2	+ 6.3
Cycle or Past Due Balance (Excluding Industrials)	+22.0	+22.6	+24.7	+14.7	+12.8	+15.3	+ 0.3	+ 9.8	+ 2.7	+13.3
Outstanding Per Cent of Sales:										
General Ledger Balance to Total Sales	0.0	+ 1.9	+ 1.3	− 2.1	− 0.5	− 9.7	− 3.9	+ 0.5	− 2.9	− 0.3
Cycle or Past Due Balance (Excluding Industrials) to Total Sales (Excluding Industrials)	+ 9.2	+11.4	+12.0	+ 6.4	+ 2.1	+ 5.1	− 5.5	− 0.5	.....	+ 7.6
Number of Customers	+ 1.5	+ 1.0	+ 2.5	+ 3.0	+ 4.1	+ 4.0	+ 3.2	+ 5.6	+ 4.0	+ 2.8
Number of Discontinue Notices	−12.0	+12.1	+18.9	+19.1	+21.2	+ 4.7	−12.4	+24.6	+34.7	+12.9
Number of Customers Discontinued for Non-Payment	+13.3	+18.4	+42.8	+28.2	+32.7	+25.6	+84.4	+38.7	+53.9	+33.9
Deposits Outstanding:										
Number	0.0	+ 6.1	+ 1.1	+ 6.7	+ 2.9	−16.1	+14.4	+ 3.8	+ 2.3	+ 0.5
Amount (Dollars)	+ 0.4	+ 7.3	+13.0	− 0.6	+ 9.2	+ 2.1	+ 2.4	− 2.2	+12.9	+ 6.2
Number of Accounts Charged Off	+24.9	+ 8.1	+25.9	+35.7	+10.1	+40.7	+ 9.8	+17.5	+21.0	+17.4
Net Charge Off in Dollars:										
Including Industrials	+35.9	+24.0	+49.4	+43.2	+27.9	+ 5.3	+41.4	+47.7	+37.4	+34.3
Excluding Industrials	+32.6	+42.4	+48.0	+78.9	+32.4	+ 9.5	+33.8	+ 8.6	+44.3	+38.1
Companies Reporting	8	11	16	8	10	6	8	6	8	81

EEI Prize Award Competitions for 1954

TEN major prize competitions will be administered by the Edison Electric Institute this year, offering 28 awards honoring individual and group achievements within the industry during 1954. Entries will be judged early in 1955.

Seven of the awards are in the commercial field and will be presented at the 21st Annual EEI Sales Conference in Chicago, March 28-31, 1955. Presentation of the other awards will be made at the 23rd Annual EEI Convention in Los Angeles, June 13-16, 1955.

Competition for the Charles A. Coffin Award will be conducted under the procedure inaugurated several years ago. Under this procedure, five companies, chosen through a nomination and reviewing process, will be invited to compete for the Award. From these companies, the Charles A. Coffin Award Committee will establish the winning company, after careful evaluation of the data relating to the accomplishments of the companies under consideration.

With the exceptions of the Coffin Award and the Reddy Kilowatt Annual Report Award, administered by Reddy Kilowatt, Inc., all prize contests presented through the Institute are under the jurisdiction of the Prize Awards Committee, headed by Harry Restofski, Vice President, West Penn Power Co.

To facilitate judging of entries, to insure equal opportunity to both large and small companies, and to encourage more widespread participation, it is urged that entries in the several competitions be kept simple and factual. Further assurance of equal opportunity exists in the offering by several of the contests of duplicate prizes to companies in different size classifications.

In all contests except the Reddy Kilowatt Annual Report Award, it is mandatory that the size of the entries be not greater than 15 by 18 inches. Larger entries will be disqualified. In addition, entries should concern only those activities performed during the year ending December 31, 1954. A one-page resume, summarizing the activities being presented, should be included at the front of each entry for awards other than the Claude L. Matthews Valor Award or the Reddy Kilowatt Annual Report Award.

Additional information on the awards, which are described briefly in the following resumes, may be obtained upon request to the Edison Electric Institute, 420 Lexington Ave., New York 17, N. Y.

Thomas W. Martin Award

Offered to the electric operating company in the United States or Canada which makes the greatest contribution to rural electrification and agricultural advancement, the Thomas W. Martin Rural Electrification Award offers recognition to the ingenuity required in planning and conducting activities designed to assist the farmer in obtaining the greatest possible benefits from the use of electricity. It also recognizes cooperative endeavors with other agencies in conducting agricultural development programs.

The award was established in 1932 by Thomas W. Martin, Chairman of the Board of Alabama Power Co. and a pioneer in rural electrification. It consists of a handsome bronze plaque upon which the winning company's name is engraved. Entries for the award, which will be presented at the 21st Annual Sales Conference, must be postmarked or received by the Edison Electric Institute not later than midnight, February 15, 1955.

George A. Hughes Awards

The George A. Hughes Awards, designed to develop the electric cooking and water heating loads, are presented for outstanding achievement in the field of electric appliance sales and promotion directly and through dealers. There are separate awards for promotional activities in the range, water heater, and commercial cooking fields. Each of these classes has two divisions, Division A for companies with 250,000 or more total meters, and Division B for companies with under 250,000 total meters.

Sponsored by Hotpoint Co., the awards honor the late George A. Hughes, pioneer in the electric range field and from 1918 to 1943 head of the Edison General Electric Appliance Co., Inc., which is now known as Hotpoint Co. They are offered to individuals of operating electric light and power companies in the United States and its possessions, and Canada.

Prizes consist of engraved trophies for winning companies, and a total of $1200 for individuals or groups who are winners. Presentation of awards will be made at the 21st Annual Sales Conference. Entries should be sent to the Edison Electric Institute and must be postmarked or received not later than midnight, February 1, 1955.

Laura McCall Awards

For 14 years *McCall's Magazine* has sponsored the Laura McCall Awards to give public acknowledgment to outstanding home service work. Prizes are presented to an individual or to an entire department of an operating light and power company in each of three separate divisions.

A new dividing line between two of the divisions has been established this year. Under the new classification, Division A is open to heads of Home Service Departments who have ten or more assistants or whose company has 250,000 or more total electric meters and recognizes over-all home service operations or activities in actual operation, while Division B is for heads of Home Service Departments who have not more than nine assistants and whose company has less than 250,000 total electric meters and also recognizes over-all home service operations or a specific activity. Division C, in which there are three equal awards, is for members of Home Service Departments of any size and is awarded for individual achievement.

Entries must be postmarked not later than midnight, February 1, 1955, and should be addressed to the Edison Electric Institute. The Laura McCall Awards, consisting of bronze-engraved plaques and five equal prizes of $200, will be presented at the 21st Annual Sales Conference.

Planned Lighting Awards

The Planned Lighting Awards give recognition to the operating electric power companies in the United States and its possessions, and Canada, who have most effectively raised the standard of lighting in their communities. They give equal emphasis to both educational and sales promotion programs.

Sponsors of the Planned Lighting Awards are the Edison Electric Institute and the Better Light Better Sight Bureau. Bronze plaques and cash awards of $150 will be presented to three winners in the field of commercial lighting, two winners in the field of residential lighting, and one winner in the field of industrial lighting.

The awards will be made at the 21st Annual Sales Conference. All entries must be postmarked or received by the Edison Electric Institute not later than midnight, February 15, 1955.

Frank Watts Awards

The purposes of the Frank Watts Awards are to recognize promotional and sales efforts in rural areas and to encourage interest in the use of electrically operated farm equipment as a means of improving agricultural productive efficiency. They are offered by Farm Journal, Inc., and are named in honor of Frank Watts, well-known proponent of farm electrification.

Engraved plaques and cash awards of $300, $250, and $150 will be presented to the first, second, and third prize winners respectively at the 21st Annual Sales Conference. The competition is open to operating electric light and power companies of the United States. Entries, addressed to the Edison Electric Institute, must be postmarked not later than midnight, February 15, 1955.

George Westinghouse Awards

The George Westinghouse Awards are offered to recognize and stimulate outstanding performances in the promotion of electric laundry equipment. They are presented by Westinghouse Electric Corp. through the Edison Electric Institute to operating electric light and power companies in the United States and its possessions, and Canada.

These awards are named for George Westinghouse, one of the earliest promoters and one of the founders of the electric industry. They consist of a trophy to the company and $300 to the individual or group as first prize, and a plaque to the company and $150 to the individual or group as second prize.

Winners of the George Westinghouse Awards will receive their prizes at the 21st Annual Sales Conference. Entries must be postmarked or received by the Edison Electric Institute not later than midnight, February 1, 1955.

More Power To America Award

The More Power to America Award has the dual purpose of increasing the productivity of American industry by increasing creative, broad-scale industrial electrification activity among the United States' operating electric light and power companies, and of bringing recognition to the companies and individuals making the greatest advancement in this field.

This is the third year in which the award has been offered by the General Electric Co. Equal awards of bronze plaques and $250 will be presented to winners in two divisions, Division A which is restricted to companies with 250,000 total meters or more and Division B which is restricted to companies with less than 250,000 meters.

All entries must be sent to the Edison Electric Institute not later than midnight, February 1, 1955. The awards will be presented at the 21st Annual Sales Conference.

Claude L. Matthews Valor Award

The Claude L. Matthews Valor Award, presented to operating electric light and power company employees in the United States and its possessions, and Canada, honors acts of devotion to duty wherein extraordinary courage has been exercised in efforts to maintain important electric service or to restore service in the shortest possible time. It was established by Claude L. Matthews, President of the W. N. Matthews Corp., and now Vice President of the W. N. Matthews Co., a division of the A. B. Chance Co.

The winner or winners of the Valor Award will receive a handsome bronze medal with a citation and the sum of $150 at the 23rd Annual EEI Convention.

Recommendations for this award must be made by the chief executive (or acting representative) of the applicant company and forwarded to the Secretary, Prize Awards Committee, Edison Electric Institute, not later than February 1, 1955. In cases where two or more employees participate equally in a valorous act, the money which would have been presented to an individual is divided among the group and a medal given each member.

Reddy Kilowatt Annual Report Award

By encouraging operating electric light and power companies to simplify, dramatize, and humanize their annual reports, the Reddy Kilowatt Annual Report Award seeks to create greater stockholder interest and understanding of the company's past year's operations, and to create better public relations among the stockholders by enabling them to understand the problems and accomplishments of the company.

In addition to a grand award consisting of a certificate and a handsomely engraved bronze plaque, a certificate of Honorable Mention will be presented to winners in each of four meter classifications.

The competition is administered solely by Reddy Kilowatt, Inc. All electric light and power companies are eligible to enter the contest. Entrants should send six copies of their 1954 annual reports to Reddy Kilowatt, Inc., 50 Church Street, New York 7, N. Y., not later than May 14, 1955.

The award will be presented to the winner or winners at the EEI Annual Convention next June.

A Catalog of

EEI Publications

is available upon

request to:

Edison Electric Institute

420 Lexington Ave.

New York 17, N. Y.

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